

# **KY Valid Course List**

## Kentucky Uniform Academic Course Codes

[704 KAR 3:540](#) states the following:

*Section 1. (1) Local districts and schools shall use uniform academic course codes, listed and described in the Academic Course Code List, to classify all courses offered in each school when reporting to the Kentucky Department of Education.*

*(2) Reporting to the Kentucky Department of Education shall include the listing and linking of uniform academic courses if the listing of academic courses is required.*

*Section 2. The linking of local district and school codes to the uniform academic course codes shall be performed by district and school staff using the student information system.*

*Section 3. The Kentucky Department of Education shall annually audit the use of uniform academic course codes by districts and schools.*

*Section 4. Incorporation by Reference. (1) "Academic Course Code List", April 2010, is incorporated by reference. (2) This material may be inspected, copied, or obtained, subject to applicable copyright law, at the Office of Teaching and Learning, 18th Floor, Capital Plaza Tower, 500 Mero Street, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. through 4:30 p.m. (36 Ky.R. 2260; Am. 37 Ky.R. 60; eff. 7-12-2010.)*

The Kentucky Uniform Academic Course Code List contains a listing of course descriptions and parameters along with certifications that fit the parameters for a given course. Please note that the table of contents and the bookmarks in each PDF document are clickable for ease of navigation. The content listed for a course cannot be changed; however, the grade range and population information listed for each course are not absolute and can vary slightly depending on the needs of the school. District should choose the course that most closely represents the students in a given course. ***The description and content of a course are the determining factors in what should be selected.***

### Contact Information:

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Detailed information about course code considerations for specific programs and areas can be found on the Kentucky Uniform Academic Course Codes website at

<http://education.ky.gov/curriculum/modcurrframe/Pages/Kentucky-Uniform-Academic-Course-Codes.aspx>

## HOW TO USE THIS DOCUMENT

This document contains a listing of course descriptions and parameters along with certifications that fit the parameters for a given course. The grade range and population information listed for each course are not absolute. Please choose the course that most closely represents the students in a given course.

### EXAMPLE

John Q Middle School had 5<sup>th</sup>, 6<sup>th</sup>, and 7<sup>th</sup> grade students taking a Creative Art course. This course would be linked to course number **500711: Creative Art – Comprehensive**, which shows with a recommended grade range of 6<sup>th</sup> – 12<sup>th</sup>.

The courses listed in this document are not meant to replace the course titles and course numbers already in use at the school level. Schools will link their courses on the Infinite Campus “Course Master” tab OR in the “Course” tab to courses listed in this document.

Schools may have created courses that are very unique in order to meet students’ needs. If a course does not meet the definition or content of one contained in this document, please use course number **909999: School Defined Course**, and code the correct content through the LEAD report.

## CERTIFICATIONS

It is important to note that the certificates listed are the ones that fit **ALL** of the parameters for a specific course – there may be other certificates that can teach it with slightly more restrictive parameters.

It is very important to note that not all of the certificates listed under a specific course will meet the Highly Qualified Teacher standards as defined by The No Child Left Behind Act of 2001. Please refer to the Highly Qualified guidance documents located on the Education Professional Standards Board (EPSB) website at <http://www.epsb.ky.gov/nclb.asp>.

In addition to Highly Qualified considerations, please take note of the following information from **The Kentucky Core Academic Standards** with regard to middle school courses that are offered for high school credit.

### High School Credit Earned in Middle School

It is expected that most students will earn these credits during their high school years. However, local school districts may offer these courses to middle level students if the following criteria are met:

- the content and the rigor of the course is the same as established in the *Kentucky Core Academic Standards*
- the students demonstrate mastery of the middle level content as specified in the *Kentucky Core Academic Standards*
- the district has criteria in place to make reasonable determination that the middle level student is capable of success in the high school course
- **the middle level course is taught by teachers with either secondary or middle level certification with appropriate content specialization**

Although middle level courses list the Provisional and Standard Elementary Certificates, Grades 1-8 as allowable under the parameters of these courses, they will not meet the above requirements for courses that are offered for high school credit.

***This document is a guide; therefore the EPSB disclaims any warranties as to the validity of the information in this document. Users of this document are responsible for verifying information received through cross-referencing the official record in the EPSB’s Division of Certification. The EPSB shall not be liable to the recipient, or to any third party using this document or information obtained therefrom, for any damages whatsoever arising out of the use of this document.***

# Table of Contents

Table of Contents .....	4
Agricultural Education Program Area (010000) .....	10
Agricultural Education - Agribusiness (010100) .....	11
Agricultural Education - Power, Structural and Technical Systems (010200) ...	13
Agricultural Education - Horticulture and Plant Science Systems (010600) .....	15
Agricultural Education - Food Science and Processing Systems (010700) .....	17
Agricultural Education - Agribiotechnology (020200) .....	18
Agricultural Education - Animal Science Systems (020500) .....	19
Agricultural Education - Environmental and Natural Resources Systems (030600) .....	21
Agricultural Education - Career Major Electives (030700) .....	23
Business Education (060000) .....	27
Business Education - Career Major Electives (060100) .....	28
Business Education - Finance (060300) .....	35
Business Education - Business Management (060400) .....	37
Business Education - Multimedia (060700) .....	39
Business Education - Accounting (070100) .....	40
Business Education - Data Base Management (070300) .....	41
Business Education - Administrative Support (070600) .....	42
Business Education - Information Processing (070700) .....	43
Business Education - Legal Office Services (070800) .....	45
Business Education - Medical Office Services (070900) .....	46
Business Education - Business Technology (071000) .....	47
Marketing Education (080000) .....	48
Marketing Education - Fashion Marketing (080100) .....	49
Marketing Education - Management/Entrepreneurship (080300) .....	50
Marketing Education - Finance (080400) .....	52
Marketing Education - Career Major Electives (080700) .....	54
Marketing Education - Hospitality, Travel & Tourism (080900) .....	58
Marketing Education - Sports Marketing (081100) .....	59
Marketing Education - E-Commerce (081300) .....	60
Marketing Education - Retailing / Wholesaling (081400) .....	61

Marketing Education - Advertising (081500) .....	62
Information Technology (110000) .....	63
Information Technology - Information Support and Services (110100) .....	64
Information Technology - Programming (110200) .....	66
Information Technology - Career Major Electives (110300) .....	69
Information Technology - Computer Science (110700) .....	70
Information Technology - Web Development/Administration (110800) .....	72
Information Technology - Networking (110900) .....	74
Information Technology - Informatics (111000) .....	77
Information Technology - Digital Design/Game Development (113600) .....	79
World Languages (160000) .....	81
World Languages - English as a Second Language (160100) .....	82
World Languages - Middle/High School - ASL (160200) .....	87
World Languages - Middle/High School - Chinese (160300) .....	90
World Languages - Middle/High School - French (160400) .....	94
World Languages - Middle/High School - German (160500) .....	99
World Languages - Middle/High School - Greek (160600) .....	104
World Languages - Middle/High School - Hebrew (160700) .....	105
World Languages - Middle/High School - Japanese (160800) .....	107
World Languages - Middle/High School - Latin (160900) .....	110
World Languages - Middle/High School - Russian (161000) .....	114
World Languages - Middle/High School - Spanish (161100) .....	116
World Languages - Middle/High School - Arabic (161200) .....	122
World Languages - Middle/High School - Italian (161300) .....	125
World Languages Elementary (165600) .....	128
Health Science (170000) .....	133
Health Science - Career Major Electives (170100) .....	134
Health Science - Sports Medicine (170300) .....	136
Health Science - Allied Health (170500) .....	137
Health Science - Pre-Nursing (170600) .....	140
Health Science - Biomedical Science (170700) .....	142
Health Science - Veterinary Assisting (170800) .....	144
Health Science - Medical Administrative Assistant (170900) .....	146
Family & Consumer Sciences (200000) .....	147

Family & Consumer Sciences - Career Pathway Electives (200100).....	148
Family & Consumer Sciences - Early Childhood Education (200200).....	150
Family & Consumer Sciences - Cosmetology (200300) .....	152
Family & Consumer Sciences - Culinary Arts and Food Science (200400).....	155
Family & Consumer Sciences - Hospitality Services (200600).....	158
Family & Consumer Sciences - Fashion and Interior Design (200800).....	160
Family & Consumer Sciences - Consumer and Family Management (201000)	162
Engineering and Technology Program Area (210000) .....	164
Engineering and Technology - Technology (210100) .....	165
Engineering and Technology - Engineering (210200).....	175
Engineering and Technology - Career Major Electives (210300) .....	182
Engineering and Technology - Engineering (Project Lead the Way) (219900).	184
English/ Language Arts (230000) .....	189
English/ Language Arts - General (230100) .....	190
English/ Language Arts - Composition (230400) .....	198
English/ Language Arts - Creative Writing (230500) .....	200
English/ Language Arts - Rhetoric (230900) .....	201
English/ Language Arts - Speech, Debate, and Forensics (231000).....	202
English/ Language Arts - Technical and Business Writing (231100).....	204
English/ Language Arts - Language Arts, Reading (231200).....	205
English/ Language Arts - Communications (239100) .....	208
English/ Language Arts - Radio/Television News Broadcast (239600) .....	210
Mathematics (270000).....	211
Mathematics - Middle (270200) .....	212
Mathematics - Algebra (270300).....	216
Mathematics - Geometry (270400) .....	220
Mathematics - Calculus (270500) .....	221
Mathematics - Other Mathematical Topics (270600) .....	223
Mathematics - Integrated Mathematics (270700) .....	227
Science (300000).....	230
Science - Elementary/Middle (300100) .....	231
Science - High School Life Science (302600) .....	234
Science - High School Integrated (303000).....	240
Science - High School Physical Sciences (304000).....	244

Pathway to Careers (320000).....	252
Pathway to Careers - Pathway to Careers (320100).....	253
Multiple Pathway Career and Technical Education Courses (330000).....	255
Health Related Activities (340000).....	256
Health Related Activities - Health (340100).....	257
Health Related Activities - Physical Education (340200).....	259
Social Studies (450000).....	265
Social Studies - Middle (450100).....	266
Social Studies - Economics (450600).....	267
Social Studies - Geography (450700).....	269
Social Studies - History (450800).....	270
Social Studies - Political Science and Government (451000).....	273
Social Studies - Sociology (451100).....	276
Social Studies - Social Sciences, other (459800).....	277
Social Studies - Psychology (459900).....	279
Industrial Education (460000).....	280
Industrial Education - Masonry (460100).....	281
Industrial Education - Construction Carpentry (460200).....	284
Industrial Education - Electrical Technology (460300).....	288
Industrial Education - Heavy Equipment (460400).....	293
Industrial Education - Plumbing Technology (460500).....	294
Industrial Education - Environmental Technology (460600).....	296
Industrial Education - Mining Technology (460700).....	297
Industrial Education - HVAC/ Air Conditioning Technology (460800).....	298
Industrial Education - Industrial Chemical Technology (460900).....	302
Industrial Education - Public Services (461000).....	306
Industrial Education - Industrial Electronics Technology (470100).....	315
Industrial Education - Major Appliance Repair (470200).....	319
Industrial Education - Industrial Maintenance Technology (470300).....	322
Industrial Education - Diesel Technology (470400).....	328
Industrial Education - Automotive Technology (470500).....	335
Industrial Education - Auto Body Technology/ Collision Repair and Refinish (470600).....	344
Industrial Education - Aviation Technology (470700).....	350

Industrial Education - Small Engines/Motorcycle Technology (470800) .....	358
Industrial Education - Machine Tool Technology (470900) .....	364
Industrial Education - CAD/Drafting Technology (480100) .....	368
Industrial Education - Visual Communication Art (480200) .....	373
Industrial Education - Printing Technology (480300) .....	379
Industrial Education - Digital Media (480400) .....	382
Industrial Education - Welding (480500) .....	383
Industrial Education - Multimedia Technology (480600) .....	390
Industrial Education - Wood Manufacturing Technology (480700) .....	391
Industrial Education - Metal Fabrication (480800) .....	395
Industrial Arts - Media Arts (480900) .....	399
Industrial Education - Marine Technology (490300) .....	403
Industrial Education - Multiple Pathway Courses (499900) .....	406
Visual and Performing Arts (500000) .....	408
Visual and Performing Arts - General (500100) .....	409
Visual and Performing Arts - Crafts (500200) .....	411
Visual and Performing Arts - Dance (500300) .....	413
Visual and Performing Arts - Theatre (500500) .....	417
Visual and Performing Arts - Film Arts (500600) .....	424
Visual and Performing Arts - Visual Arts (500700) .....	426
Visual and Performing Arts - Music (500900) .....	432
ROTC (580000) .....	441
ROTC - Air Force Junior ROTC (580100) .....	442
ROTC - Army Junior Reserve Officer Training Corp (580200) .....	444
ROTC- Navy/Marines (580300) .....	446
ROTC/Jr. Guard - Junior National Guard (580500) .....	449
Special Education (600000) .....	451
Special Education - Self Contained/FMD (600100) .....	452
Special Education - Resource and Collaboration (600200) .....	455
Elementary (700000) .....	457
Elementary - Preschool (700500) .....	458
Elementary - Primary (701000) .....	459
Elementary - Intermediate (702000) .....	461
Elementary - Other (703000) .....	463



Miscellaneous Courses (900000) ..... 469

    Miscellaneous Courses (901000) ..... 470

# **Agricultural Education Program Area (010000)**

This program area consists of courses that prepare students for successful careers and a life time of informed choices in the global food, fiber, and natural resources system.

# Agricultural Education - Agribusiness (010100)

Career Major- A group of courses that prepare individuals in agribusiness, including applying scientific methods and skills of finance, management practices, marketing, economics accounting taxes, business principles, inventory, and personal management. Any course not found under this career major/sub code, may be found in another career major/sub code within this program area.

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## 010101 - Advanced Agricultural Economics and Agribusiness Management

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Describes the theories, principles of sound business and economics practices, including marketing, finance, record keeping, inventories, personal management, tax laws, labor management, future trading, etc.

**Content:** Agriculture

**Population:** General

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## 010102 - Special Topics, Agribusiness

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Agribusiness but not described in other courses.

**Content:** Agriculture

**Population:** General

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## 010110 - Agriculture Communications

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes theories, principles and the practice of sound communication skills, including writing, public speaking, non-verbal communication. Includes TV, radio, print, and internet media.

**Content:** Agriculture

**Population:** General

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## 010111 - Agriculture Sales & Marketing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes theories, principles of sound sales and marketing practices including customer relations, displays, advertising, marketing plans, etc.

**Content:** Agriculture

**Population:** General

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## 010121 - Agriculture Employability Skills

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes theories, principles and the application of sound employability skills, including writing resumes, job interview skills, competing applications, dress, appearance, communication skills, etc.

**Content:** Agriculture

**Population:** General

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## 010131 - Agribusiness/Farm Management

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles and the application of farm and business management principles including marketing, financial management, economics, record keeping, inventories, futures trading, labor management, etc.

**Content:** Agriculture

**Population:** General

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## 010135 - Murray State University Introduction to Agribusiness

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This dual credit course is a study of fundamental principles of economics as applied to agriculture. Attention is given to resource use, economic growth, production fundamentals, economic institutions, and agriculture in relation to national and world economic problems.

**Content:** Agriculture

**Population:** General

# Agricultural Education - Power, Structural and Technical Systems (010200)

Career Major: A group of courses that prepare individuals for mechanics and engineering for Agriculture, including design, construction, operation, maintenance, repair, sales and service and marketing machinery, equipment and structures. Any course not found under this career major/sub code, may be found in another career major/sub code within this program.

---

## 010211 - Agriculture Structures & Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes theories, principles, the application of design and construction of agriculture structures. Includes principles of carpentry, electricity, plumbing, reading blueprints, use and care of tools, safety, etc.

**Content:** Agriculture

**Population:** General

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## 010212 - Agriculture Power & Machinery Operation

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles and the application of operating, repairing, and maintaining agriculture machinery and equipment. Includes principles of engines, hydraulics, welding, electricity, motor, and safety.

**Content:** Agriculture

**Population:** General

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## 010231 - Small Power & Equipment

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes theories, principles, and the application of operating, repairing, maintaining of power equipment and small engines. Includes welding, sales, marketing and safety.

**Content:** Agriculture

**Population:** General

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## 010241 - Agriculture Construction Skills

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles, and the application of construction of Agricultural related. Includes principles of carpentry, electricity, plumbing, material selection, use and care of tools, safety, etc

**Content:** Agriculture

**Population:** General

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## 010252 - Special Topics, Ag. Power, Structural & Technical Systems

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Ag. Power, Structural & Technical Systems but not described in other courses.

**Content:** Agriculture

**Population:** General

# Agricultural Education - Horticulture and Plant Science Systems (010600)

Career Major: A group or courses that prepare individuals in producing, processing, and marketing plants for ornamental, recreational, and aesthetic purposes and to maintain and manage horticulture enterprises. Introduces the theory, principles and science of horticulture. Any course not found under this career major/sub code, may be found in another career major/sub code within this program area.

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## 010610 - Crop Technology

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes the theories, principles, and science of crop production.

**Content:** Agriculture

**Population:** General

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## 010611 - Plant, Land Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes the theories, principles, and science of Agronomy.

**Content:** Agriculture

**Population:** General

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## 010615 - Murray State University Introduction Plant and Soil Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This dual credit course is a study of general plant science principles, including basic plant anatomy, physiology, and interactions with the surrounding environment.

**Content:** Animal Science

**Population:** General

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## 010621 - Floriculture & Floral Design

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles and the science of floral production, design and distribution.

**Content:** Agriculture

**Population:** General

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## 010631 - Landscape & Turf Management

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles and the science of Landscaping and Turf Management. Includes design and drawing, choosing plant materials, maintenance, marketing, etc.

**Content:** Agriculture

**Population:** General

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## 010641 - Greenhouse Technology

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles and the science of producing plants and crops within the greenhouse environment. Includes propagation, fertilization, control of pests, marketing, etc.

**Content:** Agriculture

**Population:** General

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## 010651 - Nursery & Orchard Technology

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes theories, principles and the science of producing ornamental plants, fruit and nut plants and vegetable production. Includes propagation, nutrition, cultural practices, harvesting, marketing, etc.

**Content:** Agriculture

**Population:** General

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## 010652 - Special Topics, Horticulture and Plant Science Systems

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Horticulture and Plant Science Systems but not described in other courses.

**Content:** Agriculture

**Population:** General

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# Agricultural Education - Food Science and Processing Systems (010700)

Career Major: This group of courses prepares students for careers in the food science, processing, marketing & Distribution industries.

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## 010701 - Food Processing, Distribution, and Marketing

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** This course emphasizes the science & technology of processing, distributing and marketing food products.

**Content:** Agriculture

**Population:** General

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## 010702 - Food Science and Technology

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** This course emphasis the biological, chemical and physical science principles of converting raw agricultural products to food suitable for human consumption, as well as the technical applications involved in the process.

**Content:** Agriculture

**Population:** General

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## 010709 - Special Topics, Food Science & Processing Systems

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Food Science & Processing Systems but not described in other courses.

**Content:** Agriculture

**Population:** General

# Agricultural Education - Agribiotechnology (020200)

Career Major: A group or courses that prepare individuals in principles, and science content of agricultural/life sciences, as related to the food, fiber, & natural resource industries of Agriculture. Also, this career major prepares students for careers in Agriscience, such as Bio-Technology, Veterinary Science, Food Science, Genetics, etc. Any course not found under this career major/sub code, may be found in another career major/sub code within this program area.

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## 020210 - Agri-Biotechnology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes the theories, principles, and science of high-tech agricultural/life science such as genetics, tissue culture, DNA extraction, cloning, etc.

**Content:** Agriculture

**Population:** General

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## 020252 - Special Topics, Agribiotechnology

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Agribiotechnology but not described in other courses.

**Content:** Agriculture

**Population:** General

# Agricultural Education - Animal Science Systems (020500)

Career Major: A group of courses that describe the theories, principles and science of livestock production. Also, prepares students for careers in livestock production. Any course not found under this career major/sub code, may be found in another career major/sub code within this program area.

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## 020501 - Animal Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes the theories, principles and science of animals and animal products, including nutrition, disease, management, etc.

**Content:** Animal Science

**Population:** General

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## 020502 - Animal Technology

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes the theories, principles and science of animals, including nutrition, reproduction, health, management, etc.

**Content:** Animal Science

**Population:** General

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## 020503 - Small Animal Technology

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** A course that describes the theories, principles, and science of small animals, including pets, nutrition, health, reproduction, training, etc.

**Content:** Animal Science

**Population:** General

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## 020504 - Murray State University Advanced Animal Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school students offered by Murray State University. This is a basic course in animal science including the importance and place of livestock in agriculture types, market classes, and grades of beef, sheep, and swine, origin and characteristics of breeds, and the judging of beef, sheep, and swine.

**Content:** Animal Science

**Population:** General

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## 020505 - Murray State University Introduction to Pre-Veterinary Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This dual course examines basic principles of veterinary science, including breeds, biology, veterinary tools, parasitology, office management, animal control, and basic clinical exam techniques for large and small animals. Further, the purpose of this course is to provide advanced students in agriculture with an introduction to the basic principles of veterinary science.

**Content:** Animal Science

**Population:** General

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## 020510 - Equine Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes the theories, principles and science of horse production and management.

**Content:** Animal Science

**Population:** General

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## 020511 - Veterinary Science

**Grade Level:** 9 - 12

**Credits:** 1-2

**Description:** This course introduces students to the field of veterinary science. Major topics include veterinary terminology, safety/sanitation, anatomy/physiology, clinical exam, hospital procedures, parasitology, posology, laboratory techniques, nutrition, disease, office management & animal management. Careers are also explored.

**Content:** Animal Science

**Population:** General

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## 020520 - Aquaculture

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course describing theories, principles and science of producing fish, sea food, etc., including growth, nutrition, harvesting, marketing, etc.

**Content:** Agriculture

**Population:** General

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## 020552 - Special Topics, Animal Science Systems

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to but not described in other courses.

**Content:** Animal Science

**Population:** General

# Agricultural Education - Environmental and Natural Resources Systems (030600)

Career Major: A group of courses that prepare individuals for careers involving conserving, improving and using natural resources such as air, water, soil, trees, wildlife, and recreation areas. Describe the theories, principles and science of natural resources. Any course not found under this career major/sub code, may be found in another career major/sub code within this program area.

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## 030609 - Environmental Science and Technology

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** A course describing theories, principles and science of managing, protecting and utilizing natural resources and the environment, including land, air, water, wildlife, trees, etc.

**Content:** Agriculture

**Population:** General

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## 030610 - Forestry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course describing theories, principles and science of managing, preserving, maintaining, utilizing and harvesting forest assets and forest products. Study of silviculture practices.

**Content:** Agriculture

**Population:** General

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## 030611 - Wildlife Resources

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course describing theories, principles and science of producing, managing, preserving and improving wildlife resources, including habitat management, harvesting marketing, etc.

**Content:** Agriculture

**Population:** General

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## 030652 - Special Topics, Environmental Science & Natural Resource Systems

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Environmental Science & Natural Resource Systems but not described in other courses.

**Content:** Agriculture

**Population:** General

# Agricultural Education - Career Major Electives (030700)

Courses not falling into one of the other career majors/sub codes

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## 030702 - Leadership Dynamics - Agriculture

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

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## 030707 - Agricultural Math for CTE Credit

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to emphasize high school math core content by utilizing agricultural education as the content for delivering the math concepts.

**Content:** Agriculture

**Population:** General

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## 030708 - Agricultural Math for Math Credit

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed to emphasize high school math core content by utilizing agricultural education as the content for delivering the math concepts. A correlation to the math content in the program of studies was used in developing this course to count as a 4th math elective.

**Content:** Agricultural Math for the Math Elective Requirement

**Population:** General

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## 030711 - Agriscience

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course that describes the science of the Agricultural food, fiber and natural resources industries.

**Content:** Agriculture

**Population:** General

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## 030712 - Agriscience Interdisciplinary

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** An interdisciplinary course that counts for Life Science credit for high school graduation.

Teaches science through use of agricultural concepts.

**Content:** Agriscience for Life Science Credit

**Population:** General

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## 030713 - Agri-biology Interdisciplinary

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** An interdisciplinary course that counts for Life Science credit for high school graduation.

Teaches biology through use of Agricultural concepts.

**Content:** Agribiology for Life Science Credit

**Population:** General

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## 030714 - Principles of Agri-Science & Technology, Grade 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** A foundational course describing the principles, theories and science of the Agricultural food, fiber natural resources industries.

**Content:** Agriculture

**Population:** General

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## 030715 - Principles of Agri-Science & Technology, Grade 9

**Grade Level:** 9 - 9

**Credits:** 1

**Description:** A foundational course describing the principles, theories and science of the Agricultural food, fiber natural resources industries.

**Content:** Agriculture

**Population:** General

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## 030717 - Agriscience Exploration Grade 6-8

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** A beginning course that describes the science of the Agricultural food, fiber and natural resource industries.

**Content:** Agriculture

**Population:** General

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## 030725 - Murray State University Contemporary Issues in Agriculture

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school students offered by Murray State University. A course designed to increase the understanding, awareness, and critical analysis of contemporary agricultural issues and their effect upon the social, political, economic and cultural aspects of society. Topics will include environmental, biotechnology, animal, crop, career, economy and trade, agricultural policy, food quality, safety and international agriculture issues.

**Content:** Agriculture

**Population:** General

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## 030726 - Murray State University Field Application in Agriculture

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school students offered by Murray State University. This course will teach students methods of solving many application problems that will be encountered in the field of agriculture using applied mathematical and logic skills. The emphasis will be to use practical mathematical skills already acquired from secondary education to address agricultural situations involving computations that are necessary for upper level courses in agriculture. Some knowledge of agricultural situations may be required.

**Content:** Agriculture

**Population:** General

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## 030727 - Murray State University Agriculture Leadership and Life Knowledge

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school students offered by Murray State University. The course will include an exploration of the professional qualities and expectations of the teacher/educator. Roles, responsibilities and challenges in the field of education, leadership, and communication will be examined. The course will include a minimum of four full classroom observations for field experience upon consent to instruction.

**Content:** Agriculture

**Population:** General

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## 030790 - Agricultural Education Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses indicated within the KY Department of Education provide supervised work site experience related to the student's identified career major. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Agriculture

**Population:** General

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## 030791 - Agricultural Education Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE Courses provide supervised work-site experience for high school students who have completed courses leading to a career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. Students receiving pay for intern experience are those participating in an experience that is a semester or longer and have an established employee-employer relationship. A non-paid internship affects those students who participate on a short term basis.

**Content:** Agriculture

**Population:** General

# **Business Education**

## **(060000)**

Provides relevant learning that is a critical link to employment and post-secondary education, encourages the development of vital relationships with the business community, and promotes critical thinking and problem solving.

# Business Education - Career Major Electives (060100)

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## 060101 - Co-op I (Bus Mgt)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Business

**Population:** General

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## 060104 - Internship (Bus Mgt)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Business

**Population:** General

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## 060107 - Business Education Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Business

**Population:** General

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## 060108 - Business Education Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has

an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Business

**Population:** General

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## 060110 - Introduction to Business

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Business careers, terminology, and the interrelationships and complexities of business are introduced and examined in this survey course.

**Content:** Business

**Population:** General

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## 060111 - Business Principles and Applications

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** This course establishes basic foundations for further study in business and marketing courses and provides essential information for making financial and economic decisions. Students learn about the fundamentals of the American free enterprise system and world economies; application of sound money management for personal and family finances; credit management; consumer rights and responsibilities; forms of business ownership; risk and insurance; and the importance of international trade

**Content:** Business

**Population:** General

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## 060112 - Digital Literacy

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students will use a computer and application software including word processing, presentations, database, spreadsheets, internet, and email to prepare documents and reports.

**Content:** Computer and Technology Applications (Advanced)

**Population:** General

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## 060113 - Keyboarding Applications - 7th & 8th Grade

**Grade Level:** 7 - 8

**Credits:** 0-1

**Description:** This course is designed for students who have little or no keyboarding experience. Keyboarding Applications will develop the touch system of keying with added emphasis on the development of proper keyboarding techniques, speed, and accuracy. Six to nine weeks will be spent developing the touch system. The student will apply techniques for proofreading, editing, word division, capitalization, and punctuation for production of mail able copies of letters, simple business forms, tabulated information, and manuscripts. After completion of Keyboarding Applications, a student may take either Word Processing or Computer and Technology Applications.

**Content:** Business

**Population:** General

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## 060114 - Touch Keyboarding for 4-6th Grade

**Grade Level:** 4 - 6

**Credits:** 0

**Description:** This is a six-to-nine week course where students will develop skills in operating a keyboard by touch with emphasis on entering the alphabet, numbers, and symbols with proper technique.

**Content:** Touch Keyboarding

**Population:** General

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## 060121 - Business Law

**Grade Level:** 10 - 12

**Credits:** 1, 2, 3

**Description:** This course develops an understanding of legal rights and responsibilities in personal law and business law with applications applied to everyday roles as consumers, citizens, and workers. The student will have an understanding of the American legal system, courts/court procedures, criminal justice system, torts, the civil justice system, oral and written contracts, sales contracts and warranties, and consumer protection. Legal terminology is emphasized.

**Content:** Business

**Population:** General

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## 060122 - Accounting and Finance Foundations

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will provide an introduction to both areas of accounting and finance. Topics will include banking, credit, financial literacy, career exploration, spreadsheet usage, and technical writing. The accounting principles taught in this course are based on a double-entry system and include preparing bank reconciliations, payroll taxes, and financial statements. Detailed career exploration in the various fields of accounting will be available.

**Content:** Business

**Population:** General

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## 060142 - Word Processing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed for students who have already developed proficiency in Exploratory Computers (or its equivalent). The student will spend two to three weeks reviewing the touch system of keying with emphasis on proper technique and developing speed and accuracy. The student will apply techniques for composing, proofreading, editing, word division, capitalization, and punctuation for production of mail able copies of letters, business forms, tables, and reports. In-depth instruction for the generation of desktop publishing documents, spreadsheets, graphics, graphs, charts, and databases through application is a vital part of this course. The student will also research career opportunities in computer-related careers. A computerized workstation with appropriate software is required for each student.

**Content:** Business

**Population:** General

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## 060155 - Business Communications

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** The study of written, oral, and electronic communication in a business environment. Emphasis is on writing letters, presenting business reports, using the telephone, electronic transfer of information, listening, interpreting, and developing business messages.

**Content:** Business

**Population:** General

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## 060160 - Computer and Technology Concepts

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** This course is a 9-12 weeks course designed for students in 6th grade who have minimal keyboarding experience. Computer and Technology Concepts will develop the touch system of keying with added emphasis on the development of proper keying techniques, speed, and accuracy. The first six weeks will focus on proper techniques utilizing the touch system. The final three weeks will allow the students to develop and demonstrate knowledge of basic word processing skills such as formatting letters in various letter styles, short reports with and without references, and tables. Additional emphasis will be placed on basic communications skills such as proofreading, grammar, word division, and the proper application of proofreader's marks to demonstrate the importance of mail able copy. Different telecommunications concepts may be addressed through simulation or application.

**Content:** Business

**Population:** General

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## 060161 - Business/Marketing Concepts and Applications

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** This course establishes basic foundations for further study in business and marketing courses and provides essential information for making financial and economic decisions. Students learn about the fundamentals of the American Free Enterprise System and work economics; application of sound money management for personal and family finances; credit management, consumer rights and responsibilities; forms of business ownership; risk and insurance; and the importance of international trade. Leadership will be provided through FBLA and/or DECA.

**Content:** Business

**Population:** General

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## 060170 - Financial Literacy (for CTE Credit)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to provide students with the knowledge and skills to manage one's financial resources effectively for lifetime financial security. Topics include economics, money in the economy, budgeting, credit, consumer rights, investments and retirement planning. A correlation to the math content in the program of studies was used in developing this course to count as a 4th math elective. Leadership development will be provided through FBLA/DECA.

**Content:** Business

**Population:** General

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## 060171 - Financial Literacy for Math Credit (Business)

**Grade Level:** 9 - 12

**Credits:** 1E

**Description:** This course is designed to provide students with the knowledge and skills to manage one's financial resources effectively for lifetime financial security. Topics include economics, money in the economy, budgeting, credit, consumer rights, investments and retirement planning. A correlation to the math content in the program of studies was used in developing this course to count as a 4th math elective. Leadership development will be provided through FBLA/DECA.

**Content:** Financial Literacy for the Math Elective Requirement

**Population:** General

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## 060172 - Math for Business and Industry for CTE credit

**Grade Level:** 9 - 11

**Credits:** 1

**Description:** Enables student to explore mathematical content for personal, business, and industrial use; concepts are applied through problem-solving and real-world situations

**Content:** Business

**Population:** General

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## 060185 - Entrepreneurship

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** This course is designed to provide students the skills needed to effectively organize, develop, create and manage their own business. This course is based on the business and marketing core that includes communication skills, economics, financial analysis, operations, promotion and selling. The culminating project of the course is the development of a comprehensive business plan. Cooperative education or shadowing experiences may be used to enhance course instruction

**Content:** Business

**Population:** General

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## 060188 - International Business

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** This course is designed to provide students with basic knowledge and skills related to international economic activities and global business transactions. Students will examine the relationship of global business activities to nations, companies, and individuals in their roles as workers, consumers, and citizens; and will examine economic, cultural, geographic, historic, and technological influences on global business activities, management principles, human relation theories, information systems, production, marketing, and finance activities.

**Content:** Business

**Population:** General

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## 060190 - Math for Business and Industry for credit in Math

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Enables student to explore mathematical content for personal, business, and industrial use; concepts are applied through problem-solving and real-world situations. A correlation to the math content in



the Program of Studies was used in developing this course to count for the 4th math elective.

**Content:** Math for Business and Industry for the Math Elective Requirement

**Population:** General

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## 060195 - Business and Marketing Career Exploration - 8th & 9th Grade

**Grade Level:** 8 - 9

**Credits:** 1

**Description:** This course provides students with a survey of skills needed for school-to-work transition. Opportunities to explore the business and marketing career cluster and career paths, to heighten self-awareness, and to develop priorities and career decision-making skills are also provided. A variety of instructional resources, self-assessment instruments, and career interest surveys are included in the updating of the Individual Learning Plan (ILP). Interpersonal skill development and orientation to word processing, computer spreadsheet, and database are included.

**Content:** Business

**Population:** General

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## 060196 - Leadership Dynamics - Business

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

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## 060197 - Special Topics, Business

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Business but not described in above courses.

**Content:** Business

**Population:** General

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## 060198 - Business Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to be a hands-on exploration of business technologies in the following areas: accounting, finance and credit, business management, marketing, economics, and computer applications.

**Content:** Business

**Population:** General

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## 060199 - Web Page Design

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Students analyze the structure of the worldwide web, apply basic principles of web documents and HTML, and develop multi-media web pages. Course content will include the understanding of hypertext and web structures. Equipment such as scanners, digital and video cameras, and sound recording devices will be utilized through hands-on instruction

**Content:** Web Page Design

**Population:** General

# Business Education - Finance

## (060300)

A group of instructional programs that prepare individuals to perform financial or banking services. Includes instruction in credit collection, transit routing of notes and drafts, receiving and paying out money, and functions associated with processing loans and insurance claims. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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### 060311 - Financial Services I

**Grade Level:** 10 - 12

**Credits:** 1, 2, 3

**Description:** This course is designed for students interested in pursuing a career in the financial institution field. It involves operation of a student financial center in cooperation with a sponsoring bank, which provides application of banking and financial procedures.

**Content:** Business

**Population:** General

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### 060351 - Financial Services II

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** Financial Services II is a continuation of Financial Services I, providing opportunities to enhance students' math and English portfolio writings. Students continue to learn and practice financial activities associated with the operation of a bank and other finance-related institutions in addition to assuming management and supervisory responsibilities, including training "new employees" Students will participate in a work-based learning experience (i.e., co-op, internship, shadowing, mentoring, etc.).

**Content:** Business

**Population:** General

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### 060353 - Personal Finance

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This Area Technology Course provides information needed to make intelligent choices and take effective action in the management of personal resources is provided. Topics include financial planning, buying, borrowing, saving, budgeting, investing, insurance and taxes.

**Content:** Business

**Population:** General

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### 060397 - Special Topics, Financial Services

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Financial Services but not described in above courses.

**Content:** Business

**Population:** General

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## 060399 - Advanced Finance and Credit

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** This course is designed to develop an understanding of financial markets, investing institutions, and the finance and credit industry in our economic system. It includes an introduction to the allocation of financial resources, the effects of the finance and credit institutions on the business community, and the impact that financial decisions have on the consumer market. Areas of study include stock markets, bonds, futures, commodities, interest rates and the economy, interpretation of financial information, insurance and risk management, and job opportunities in the finance and credit area. This course should include real and/or simulated occupational experiences and projects

**Content:** Business

**Population:** General

# Business Education - Business Management (060400)

A group of courses that describes the planning, organizing, and various theories of management; knowledge and understanding necessary in decision making; personnel selection; leadership abilities; and speech preparation. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 060410 - Introduction to Business Management

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This Area Technology Center course introduces the concepts and principles of effective business management and includes forms of business ownership, typical business organizational structures, relationship of business to the community, and the effect of government regulations on businesses.

**Content:** Business

**Population:** General

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## 060411 - Business Management

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3,

**Description:** This course emphasizes the skills needed for managing a business that involves the selection and supervision of employees including efficient use of time, personnel, facilities, and financial resources. Students will explore forms of business ownership; typical business organizational structure; product or service promotion in business; effective communications; human relations skills required in dealing with employees; and effective management strategies used in personnel, finance, production, marketing, and information processing.

**Content:** Business

**Population:** General

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## 060497 - Special Topics, Business Management

**Grade Level:** 9 - 12

**Credits:** 1/2, 1

**Description:** Instruction related to Business Management but not described in above courses.

**Content:** Business

**Population:** General

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## 060511 - Business Economics for CTE credit

**Grade Level:** 9 - 12

**Credits:** 1/2, 1

**Description:** This course provides an in-depth study of how people produce, distribute and consume goods and services. Economic terminology, theory, and a comparison of economic systems and policies are integral to the course.

**Content:** Business  
**Population:** General

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## **060596 - Business Economics for Economics credit within Social Studies**

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** This course is designed to be a comprehensive study of economics which meets the economics requirement for graduation. It provides an in-depth study of how people produce, distribute and consume goods and services. Economic terminology, theory and a comparison of economics systems and policies are integral to the course.

**Content:** Business Economics for Economics Credit within Social Studies

**Population:** General

# Business Education - Multimedia (060700)

A program that prepares individuals to function in an organization as a composer, editor and proofreader of business or business-related communications

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## 060751 - Multimedia Publishing

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This hands-on course applies publishing and presentation concepts through the development of sophisticated business documents and projects. These documents include, but are not limited to tri-fold brochures, manuscripts, reports, bi-fold programs, catalogs, newsletters, flyers, business forms, graphs, web pages, on-screen presentations, and video productions. Equipment such as scanners, digital cameras, video cameras, and color laser printers, may be utilized in creating documents. Formatting, editing, page layout, and design concepts are taught. Distribution ready publication standards are applied to all projects. Students will develop communication skills, problem-solving techniques, cooperative learning, and interpersonal skills.

**Content:** Business

**Population:** General

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## 060761 - Advanced Multimedia Publishing

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This hands-on course applies advanced web design, publishing, and presentation concepts through the development of sophisticated documents and projects which includes, but is not limited to: web sites, web databases, web movies, video editing and production, television productions. This course is designed around the learning goals of the instructor utilizing hardware and software available.

**Content:** Business

**Population:** General

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## 060799 - Special Topics, Multimedia Publishing

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Multimedia Publishing but not described in above courses.

**Content:** Business

**Population:** General

# Business Education - Accounting (070100)

Prepares individuals to systematize data by applying auditing principles, preparing budgets and financial statements, basic accounting elements, bookkeeping principles in real-world settings, financial management, corporate bookkeeping, advanced basic accounting, accounting cycle, depreciation, and accruals. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 070122 - Financial Accounting

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** The accounting principles taught in this course include an in-depth study of accounting principles, procedures, and techniques used in keeping financial records for sole proprietorships, partnerships, and corporations. There is an emphasis on automated accounting. Topics include a more analytical approach to accounting. Leadership development will be provided through FBLA

**Content:** Business

**Population:** General

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## 070125 - Advanced Accounting

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** College Accounting uses an integrated approach to teach accounting. Students first learn how businesses plan for and evaluate their operating, financing, and investing decisions and then how accounting systems gather and provide data to internal and external decisions makers. This year-long course covers all the learning objectives of a traditional college level financial accounting course, plus those from a managerial accounting course. Topics include an introduction to accounting, accounting information systems, time value of money, and accounting for merchandising firms, sales and receivables, fixed assets, debt and equity. Other topics include statement of cash flows, financial ratios, cost-volume profit analysis and variance analysis.

**Content:** Business

**Population:** General

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## 070197 - Special Topics, Accounting Services

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Accounting Services but not described in above courses.

**Content:** Business

**Population:** General



# Business Education - Data Base Management (070300)

A group of instructional programs that prepare individuals to analyze and design data processing system configurations; write, test, monitor, debug, and maintain data processing programs; and operate computers and peripheral and data entry equipment. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 070331 - Data Modeling/SQL

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** This course allows students to transform business requirements into an operational database using a systematic approach. Students will be engaged using data storage and retrieval techniques through activities that require teamwork, presentation skills, logical problem-solving, journaling and reflective thinking. Students will create and maintain database objects, and store, retrieve, and manipulate data. Demonstrations and hands-on practice will be used for learning concepts. Students will apply SQL, an industry-standard language, to learn to build and manage database systems. Students will also learn interviewing skills and project management.

**Content:** Business

**Population:** General

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## 070397 - Special Topics, Data Base Management

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Data Management but not described in above courses.

**Content:** Business

**Population:** General

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## 070399 - Web Data Management

**Grade Level:** 9 - 12

**Credits:** 1, 2, 3

**Description:** This course will allow students to use the Oracle Academy curriculum to enhance their knowledge of Data Modeling and SQL programming

**Content:** Business

**Population:** General

# Business Education - Administrative Support (070600)

A group of instructional programs that prepare individuals to record and transcribe communications and to provide administrative support. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## **070697 - Special Topics, Administrative Support Services**

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Special topics expand course offerings, as well as address local office issues as new technology is developed. Topics may vary from semester to semester at the discretion of the instructor; courses may be repeated with different topics to a maximum of three credit hours.

**Content:** Business

**Population:** General

# Business Education - Information Processing (070700)

A group of instructional programs that prepare individuals to record, duplicate, and retrieve data, including classifying, sorting and filing correspondence, records, and other data. Includes instruction in shipping and receiving procedures, stock and inventory maintenance, and operation of office machines. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 070711 - Software Integration

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Expands computer skills through the use of spreadsheets, database management, word processing and presentation software for the integration of information.

**Content:** Business

**Population:** General

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## 070743 - Advanced Computer Applications

**Grade Level:** 10 - 12

**Credits:** 1, 2, 3

**Description:** This course is designed to provide students with an advanced-level experience with practical applications through hands-on instruction. Course content will include understanding of various hardware, software, operating systems, care/operations, administrative applications, and employability skills. The software includes advance business applications using word processing, presentation, spreadsheets, database management, desktop publishing, and electronic communication. Leadership development will be provided through FBLA. Upon completion of this course, a student will be ready to take the core level tests for MOS Certification and/or the Administrative Supports Skill Standard Assessment.

**Content:** Computer and Technology Applications (Advanced)

**Population:** General

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## 070750 - Microsoft Office Specialist (MOS/MCAS)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is an extension of Computer and Technology Applications or Advanced Computer Applications, students will have the opportunity to increase their computer skills. Advanced functions and integration of Microsoft Word, Excel, Access, and PowerPoint will be taught. Students will work toward MOS Certification in one or more of these Microsoft areas. In addition students will utilize Internet access to complete various projects.

**Content:** Business

**Population:** General

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## 070797 - Special Topics, Information Processing Services

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Information Processing Services but not described in above courses.

**Content:** Business

**Population:** General

# Business Education - Legal Office Services (070800)

A group of instructional programs that prepare students to work in a legal office.

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## 070881 - Legal Office

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** This course enables students to gain concepts, skills, and techniques in legal terminology and various forms used in the legal profession.

**Content:** Business

**Population:** General

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## 070897 - Special Topics, Legal Office Services

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Data Management but not described in above courses.

**Content:** Business

**Population:** General

# Business Education - Medical Office Services (070900)

A group of instructional programs that prepare students to work in with medical office records.

---

## 070971 - Medical Office

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** This course enables students to gain concepts, skills, and techniques in medical terminology and various forms used in the medical profession.

**Content:** Business

**Population:** General

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## 070997 - Special Topics, Medical Office Services

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Data Management but not described in above courses.

**Content:** Business

**Population:** General

# Business Education - Business Technology (071000)

Provides students the opportunity to take any four credits in the business education curriculum

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## **071097 - Special Topics, Business Technology**

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to any business education course but not described in above courses.

**Content:** Business

**Population:** General

# Marketing Education

## (080000)

A program area that consist of a summary of groups of instructional programs that prepare individuals for occupations directed toward and incident to the flow of instructional and consumer goods in channels of trade, or the provision of services to consumers or users. These programs are concerned with marketing, sales, distribution, merchandising, and management.



# Marketing Education - Fashion Marketing

## (080100)

A group of instructional programs that prepare individuals to perform marketing function and tasks in retail establishments, wholesale establishments, and marketing firms primarily engaged in the marketing of clothing and related articles for personal wear. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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### 080111 - Fashion Marketing

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course is a specialized course that provides instruction in marketing of apparel and accessories. This course is based upon the business and marketing core that includes communication skills, economics, operations, professional development, promotion, selling, distribution, and product/service management. The instruction includes basic fashion and marketing basics, the use of design and color, promotions, visual merchandising and career opportunities. Leadership development will be provided through DECA activities and competitive events.

**Content:** Marketing

**Population:** General

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### 080115 - Special Topics, Fashion Marketing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

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### 080132 - Fashion Marketing Management

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is designed as a continuation of Fashion Marketing and provides an in-depth study of merchandising techniques, fashion trends, fashion promotion, and management skills. This course is based on the business and marketing core that includes communication skills, economics, operations, professional development, promotion, selling, distribution, and product/service management. Leadership development will be provided through DECA activities and competitive events

**Content:** Marketing

**Population:** General

# Marketing Education - Management/Entrepreneurship (080300)

A group of instructional programs that prepares students for the rewards and risk of business ownership. Emphasis is placed on the day-to-day management functions performed by marketing professionals. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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## 080310 - Entrepreneurship (Marketing)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is designed to provide students the skills needed to effectively organize, develop, create and manage their own business. This course is based on the business and marketing core that includes communication skills, economics, financial analysis, operations, promotion and selling. The culminating project of the course is the development of a comprehensive business plan. Cooperative education or shadowing experiences may be used to enhance course instruction

**Content:** Marketing

**Population:** General

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## 080311 - Business Management

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course emphasizes the skills needed for managing a business that involves the selection and supervision of employees including efficient use of time, personnel, facilities, and financial resources. Students will explore forms of business ownership; typical business organizational structure; product or service promotion in business; effective communications; human relations skills required in dealing with employees; and effective management strategies used in personnel, finance, production, marketing, and information processing

**Content:** Marketing

**Population:** General

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## 080315 - Special Topics, Management/ Entrepreneurship

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

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## 080317 - Business Economics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Describes principles and methods of business principles, economic system, costs, and market competition.

**Content:** Marketing

**Population:** General

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## 080318 - Business Economics for Interdisciplinary

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Describes principles and methods of business principles, economic system, costs, and market competition. This course will count for social studies credit.

**Content:** Business Economics for Economics Credit within Social Studies

**Population:** General

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## 080399 - Entrepreneurship (Business)

**Grade Level:** 11 - 12

**Credits:** 1, 2, 3

**Description:** Students explore rewards and risks of business ownership

**Content:** Business

**Population:** General

# Marketing Education - Finance (080400)

A group of instructional programs that prepare individuals to perform marketing functions and tasks in financial institutions such as commercial banks, savings and loan associations, credit agencies, credit unions, consumer-finance companies, collection agencies, security and commodity brokerages, and credit departments of business. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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## 080410 - Financial Services I

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course defines basic banking terminology, develops communication skills, describes examples of credit used by consumers, business and government, and discusses relationships between retailers and financial services. Students will develop and manage a student financial center through the sponsorship of a local bank.

**Content:** Marketing

**Population:** General

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## 080411 - Advanced Finance and Credit

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is designed to develop an understanding of financial markets, investing institutions, and the finance and credit industry in our economic system. It includes an introduction to the allocation of financial resources, the effects of the finance and credit institutions on the business community, and the impact that financial decisions have on the consumer market. Areas of study include stock markets, bonds, futures, commodities, interest rates and the economy, interpretation of financial information, insurance and risk management, and job opportunities in the finance and credit area. This course should include real and/or simulated occupational experiences and projects.

**Content:** Marketing

**Population:** General

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## 080415 - Special Topics, Financial Services

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

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## 080451 - Financial Services II

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Financial Services II is a continuation of Financial Services I, providing opportunities to enhance students' math and English portfolio writings. Students continue to learn and practice financial activities associated with the operation of a bank and other finance-related institutions in addition to assuming management and supervisory responsibilities, including training "new employees." Students will participate in a work-based learning experience (i.e., co-op, internship, shadowing, mentoring, etc.).

**Content:** Marketing

**Population:** General

# Marketing Education - Career Major Electives (080700)

A program that prepares individuals to teach sales and marketing operations/marketing programs at various educational levels. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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## 080707 - Marketing Education Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Marketing

**Population:** General

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## 080708 - Marketing Education Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Marketing

**Population:** General

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## 080710 - Business and Marketing Career Exploration - 8th & 9th Grade

**Grade Level:** 8 - 9

**Credits:** 1

**Description:** This course provides students with a survey of skills needed for school-to-work transition. Opportunities to explore the business and marketing career cluster and career paths, to heighten self-awareness, and to develop priorities and career decision-making skills are also provided. A variety of instructional resources, self-assessment instruments, and career interest surveys are included in the updating of the Individual Learning Plan (ILP). Interpersonal skill development and orientation to word processing, computer spreadsheet, and database are included.

**Content:** Marketing

**Population:** General

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## 080711 - Business and Marketing Concepts and Applications

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course is for 7th grade students and is a 9-12 week course that incorporates fundamentals of introduction to business concepts with hands-on application of Word Processing, Spreadsheet, Graphics, Power Point design and Publisher. The student will be introduced to business terminology, practice and procedures for running a small business as well as making realistic decisions regarding their daily operations. Activities are designed to promote creativity, individuality, and encourage students to take ownership in their business enterprise. Students develop their small business through the developmental stage and progress to study marketing plans, various forms of communication, inventory control and payroll.

**Content:** Marketing

**Population:** General

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## 080712 - Business Principles and Applications

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** This course establishes basic foundations for further study in business and marketing courses and provides essential information for making financial and economic decisions. Students learn about the fundamentals of the American free enterprise system and world economies; application of sound money management for personal and family finances; credit management; consumer rights and responsibilities; forms of business ownership; risk and insurance; and the importance of international trade

**Content:** Marketing

**Population:** General

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## 080715 - Special Topics, Marketing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to marketing Education but not described in above.

**Content:** Marketing

**Population:** General

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## 080716 - Principles of Marketing

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** This course provides a basic foundation for further study in marketing. Students study economic functions at work in the marketplace, marketing functions including purchasing, pricing, and distribution functions. This course is based on the business and marketing core that includes communication skills, economics, financial analysis, and promotion. Both marketing and employment skills learned will improve and increase the chance of successful transition into the world of work

**Content:** Marketing

**Population:** General

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## 080717 - Advanced Marketing

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to enhance marketing skills developed in the marketing prerequisite

courses and to learn advanced marketing skills in such areas as advertising, customer service, supervision, and employee/employer relations for a wide range of marketing careers. This course is based on the business and marketing core that includes communication skills, emotional intelligence, economics, marketing, operations, promotion, marketing-information management and financial analysis.

**Content:** Marketing

**Population:** General

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## 080718 - Financial Literacy for CTE Credit (Marketing)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to provide students with the knowledge and skills to manage one's financial resources effectively for lifetime financial security. Topics include economics, money in the economy, budgeting, credit, consumer rights, investments and retirement planning. A correlation to the math content in the program of studies was used in developing this course to count for a 4th math elective. Leadership development will be provided through FBLA/DECA.

**Content:** Marketing

**Population:** General

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## 080719 - Financial Literacy for Math Credit (Marketing)

**Grade Level:** 9 - 12

**Credits:** 1E

**Description:** This course is designed to provide students with the knowledge and skills to manage one's financial resources effectively for lifetime financial security. Topics include economics, money in the economy, budgeting, credit, consumer rights, investments and retirement planning. A correlation to the math content in the program of studies was used in developing this course to count as a 4th math elective. Leadership development will be provided through FBLA/DECA.

**Content:** Financial Literacy for the Math Elective Requirement

**Population:** General

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## 080721 - Food Marketing

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course prepares the student for the challenging field of retail food marketing, including the marketing of food, beverages, and related products through various types of retail stores. In addition to an overview of the vast food marketing industry, including food manufacturers, food sales agents, wholesalers, distributors, and retailers, students learn the principles, concepts, and functions of marketing as they relate to a retail food store. Instruction can be enhanced through the use of a school-based enterprise (such as a Kroger Store) and its activities. Both marketing and employment skills learned will increase the chance of successful transition into the world of work. Leadership development will be provided through DECA activities and competitive events.

**Content:** Marketing

**Population:** General

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## 080772 - Math for Business and Industry for CTE credit (Marketing)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Enables student to explore mathematical content for personal, business, and industrial use; concepts are applied through problem-solving and real-world situations



**Content:** Marketing  
**Population:** General

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## **080780 - Math for Business and Industry for credit in Math (Marketing Credit)**

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Enables student to explore mathematical content for personal, business, and industrial use; concepts are applied through problem-solving and real-world situations. A correlation to the math content in the Program of Studies was used in developing this course to count for the 4th math credit.

**Content:** Math for Business and Industry for the Math Elective Requirement

**Population:** General

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## **080799 - Leadership Dynamics - Marketing**

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

# Marketing Education - Hospitality, Travel & Tourism (080900)

A group of instructional programs that prepare individuals to perform marketing and management functions and tasks in any business enterprise primarily engaged in satisfying the desire of people to make productive or enjoyable use of leisure time.

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## 080910 - Principles of Hospitality

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed for students interested in marketing careers in the hospitality industry. The instruction includes career awareness in the areas of recreation, travel/tourism, hotel/motel, and restaurant. This course is based on the business and marketing core that includes communication skills, economics, operations, promotion, selling, and product/service management.

**Content:** Marketing

**Population:** General

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## 080911 - Travel and Tourism Marketing

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course introduces the student to the travel and tourism industry. This course is based on the Business and Marketing Core that includes communication skills, economics, human resource management, promotion, marketing-information management, and selling. Instruction includes domestic and international travel, sales techniques, transportation methods (road, water, air, rail), food and beverage marketing, and destination marketing

**Content:** Marketing

**Population:** General

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## 080912 - International Marketing

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is designed to explore the cultural, economic, political, legal, and technological environments facing international marketers in today's global economy.

**Content:** Marketing

**Population:** General

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## 080915 - Special Topics, Hospitality, Travel & Tourism

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

# Marketing Education - Sports Marketing

## (081100)

A group of instructional programs that prepare individual to perform marketing and management functions and tasks in sports marketing. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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### 081115 - Special Topics, Sports Marketing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

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### 081121 - Sports and Event Marketing

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course is designed to develop a thorough understanding of the marketing concepts and theories that apply to sports and events. This course is based on the business and marketing core that includes communication skills, distribution, marketing-information management, pricing, product/service management, promotion, selling, operations, strategic management, human resource management, and the economic impact and considerations involved in the sports and event marketing industries.

**Content:** Marketing

**Population:** General

# Marketing Education - E-Commerce (081300)

A group of instructional programs that prepare individuals to perform electronic marketing functions or E-Commerce. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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## 081310 - Internet Marketing

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course provides an in-depth study in electronic marketing/commerce associated with the internet or sometimes called E-Commerce. Students learn how to practice good marketing principles in an "electronic" marketing place. Decision-making and problem-solving skills are involved in such units as human relations, distribution, market information management, and product/service planning. The employment skills learned will improve and increase the chance of successful transition into the world of work. Leadership development will be provided through DECA.

**Content:** Marketing

**Population:** General

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## 081315 - Special Topics, E-Commerce

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to marketing Education but not described in above.

**Content:** Marketing

**Population:** General

# Marketing Education - Retailing / Wholesaling (081400)

A group of instructional programs that prepare individuals to perform marketing and management functions and tasks in retail and wholesale establishments. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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## 081411 - Retail Marketing

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course is designed to provide an overview of the marketing responsibilities of individuals employed in the retail industry. This course is based on the business and marketing core that includes communication skills, operations, distribution, marketing-information management, pricing, product/service management, promotion and selling. The Kentucky Occupational Retail Services Skill Standards are integrated into this course giving students the opportunity to receive Retail Skill Standards Certification

**Content:** Marketing

**Population:** General

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## 081415 - Special Topics, Retailing / Wholesaling

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

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## 081431 - Retail Marketing Management

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is designed as a continuation of Retail Marketing and provides an in-depth study of merchandising techniques and management skills. This course is based on the business and marketing core that includes communication skills, economics, operations, professional development, promotion, selling, distribution, and product/service management.

**Content:** Marketing

**Population:** General

# Marketing Education - Advertising (081500)

A group of instructional programs that describe the creation, execution, transmission, and evaluation of commercial messages concerned with the promotion and sale of products and services. Any course not found under this career major/sub code maybe found in another career major/sub code within this program area.

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## 081511 - Advertising & Promotion

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** This course is designed to provide students with a realistic "hands-on" applications of techniques used in the advertising and promotion of goods and services. Students use typical media software, media equipment, while being exposed to all forms of media (print, web page, etc.), methods, budgets, and evaluations used by industry. Leadership development will be provided through DECA.

**Content:** Marketing

**Population:** General

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## 081512 - Promotional Applications & Media

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course is designed to provide students with hands-on applications, of running a school based industry simulated experience. Students will apply basic fundamentals of advertising using digital and print media. This course is based on the business and marketing core that includes communication skills, economics, financial analysis, product/service mgt and promotion.

**Content:** Marketing

**Population:** General

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## 081515 - Special Topics, Advertising

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Marketing Education but not described in above.

**Content:** Marketing

**Population:** General

# Information Technology

## (110000)

The Information Technology Program prepares students for careers by applying technical knowledge and skills in the rapidly growing fields of computer networking, programming, digital media, support services, and e-commerce/web design.

# Information Technology - Information Support and Services (110100)

Career Major-Focuses on the design of computing systems. Includes instruction in the principles of computer hardware & software components, algorithms data basis, telecommunications, etc. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 110101 - Computer Hardware and Software Maintenance

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Focuses on the design of computing systems, including instruction in the principles of computer hardware and software components, algorithms data basis, telecommunications, etc. Includes the knowledge to identify and explain PC components, setup a basic PC workstation, conduct basic software installation, identify compatibility issues and recognize/prevent basic security risks and also gives knowledge in the areas of Green IT and preventative maintenance of computers.

**Content:** Information Technology

**Population:** General

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## 110102 - Help Desk Operations

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces a variety of tools and techniques to provide user support in help desk operations. Explores help desk concepts, customer service skills, troubleshooting problems, writing for end users, help desk operations and software, needs, analysis, facilities management, and other topics related to end user support.

**Content:** Information Technology

**Population:** General

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## 110107 - Introduction to GIS (For IT)

**Grade Level:** 10 - 12

**Credits:** .5-1

**Description:** This is an introductory course designed to provide basic theories and concepts of geographical information systems including basic GIS capabilities, data collection, data types, GPS, and basic mapping concepts. Introduces GIS software using industry-specific applications and technology to provide a conceptual base to build expertise in GIS.

**Content:** Information Technology

**Population:** General

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## 110110 - Computer Literacy

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces students to the main components of computer literacy including Computer Fundamentals, Key Applications and Living Online. Provides an introduction to the computer and the convergence of technology as used in today's global environment. Introduces topics including computer hardware and software, file management, the Internet, e-mail, the social web, green computing, security and computer ethics. Presents basic use of application, programming, systems and utility software. Basic keyboarding skills are strongly recommended. Note: This course is equivalent to Digital Literacy (060112) and will combine as one course effective 2016-2017.

**Content:** Computer and Technology Applications (Advanced)

**Population:** General

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## 110152 - Special Topics, Information Support & Services

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Information Support & Services but not described in above courses.

**Content:** Information Technology

**Population:** General

# Information Technology - Programming (110200)

Career Major - Focuses on the general writing and implementation of generic and atomized programs to drive operating systems. Includes software design, languages, and program writing, trouble-shooting, etc. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 110201 - Programming (Java, C + +, Visual Basic, etc.)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focuses on the general writing and implementation of generic and atomized programs to drive operating systems. Includes software design, languages, and program writing, trouble-shooting, etc.

**Content:** Programming (Advanced)

**Population:** General

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## 110202 - C + + 1

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces students to fundamental programming concepts using the C + + programming language. Includes data types, control structures, simple data structures, error-handling, modular programming, and information and file processing.

**Content:** Programming (Advanced)

**Population:** General

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## 110204 - Productivity Software

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Utilizes current word processing, spreadsheet, database, and presentation application software to solve common technology and business problems. Covers basic features of each software application.

**Content:** Information Technology

**Population:** General

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## 110205 - JAVA Programming I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introductory course to object oriented programming in Java. Students learn to write, compile, test, and debug basic applets and applications that use a graphical user interface.

**Content:** Programming (Advanced)

**Population:** General

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## 110206 - JAVA Programming II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is a continuation of Java Programming I. Students learn input and output streams, networking, advanced graphical user interface features, and the benefits of object-oriented techniques such as encapsulation, inheritance, etc.

**Content:** Programming (Advanced)

**Population:** General

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## 110207 - Visual Basic 1

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces students to fundamental programming concepts using the Visual Basic programming language. Includes data types, control structures, simple data structures, error-handling, modular programming, event-driven programming, graphical user interfaces, and file processing

**Content:** Programming (Advanced)

**Population:** General

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## 110208 - Visual Basic II: Creating Desktop Applications

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to provide students with the knowledge and skills to design, develop, and implement Visual Basic applications designed to run on individual computers or workstations. This course helps prepare the student for Microsoft Certified Professional Examination.

**Content:** Programming (Advanced)

**Population:** General

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## 110211 - Introduction to Database Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Provides an overview of database and database management system concepts, internal design models, normalization, network data models, development tools, and applications.

**Content:** Information Technology

**Population:** General

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## 110213 - Computer Graphics

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces basic computer graphics with special emphasis on graphics for games.

**Content:** Information Technology

**Population:** General

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## 110251 - Computational Thinking

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Students analyze the structure of the worldwide web, apply basic principles of web documents and HTML, and develop multi-media web pages. Course content will include the understanding of hypertext and web structures. Equipment such as scanners, digital and video cameras and sound recording devices will be utilized through hands-on instruction. Promotes understanding of computer programming and logic by teaching students to "think like a computer". Covers skills needed to develop and design language-independent solutions to solve computer related problems. Covers developmental and design basics including use of variables, control and data structures, and principles of command-line and object-oriented languages.

**Content:** Information Technology

**Population:** General

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## 110252 - Special Topics, Programming

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Programming but not described in above courses.

**Content:** Information Technology

**Population:** General

# Information Technology - Career Major Electives (110300)

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## 110302 - Management of Support Services

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Digitally organizing the information technology milestone achieved by the student that is reflective of their industry certification readiness, understanding the cost of doing business, and preparation of technical and behavioral job interviews. Focuses on employability skills to include: a professional digital portfolio that emphasizes critical milestones that focus on entry level information technology employability skills. (Previously Help Desk II)

**Content:** Information Technology

**Population:** General

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## 110315 - GIS Software Tools and Applications

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This class explores Geographical Information System extensions (software modules that plug into the core product to deliver powerful added functionality). Introduces and identifies popular advanced extensions used for network analysis, spatial analysis, and 3D analysis.

**Content:** Information Technology

**Population:** General

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## 110316 - Special Topics in GIS

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will provide students additional knowledge in the GIS field applying the fundamental concepts and utilizing tools and applications for further understanding. The course should assist and give opportunities to students needed to master skills in the GIS field.

**Content:** Information Technology

**Population:** General

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## 110399 - Leadership Dynamics - Information Technology

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

# Information Technology - Computer Science

## (110700)

Career Major- Focuses on computers, computing problems and solutions, and the design of computer systems and user interfaces from a scientific perspective. Includes instruction in the principles of computational Science, and computing theory; computer hardware design; computer development and programming; and applications to a variety of end-use situations. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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### 110701 - AP Computer Science A

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** AP Computer Science is designed to teach students with an interest in computer programming how to use the Java programming language. During this course, students will learn about object-oriented programming, program implementation through classes, program analysis, data structures, algorithms, and ethical computing responsibility and use.

**Content:** AP Computer Science

**Population:** General

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### 110710 - Introduction to Computer Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduction to Computer Science is designed to introduce students to the breadth of the field of computer science through an exploration of engaging and accessible topics. Rather than focusing the entire course on learning particular software tools or programming languages, the course is designed to focus on the conceptual ideas of computing and help students understand why certain tools or languages might be utilized to solve particular problems. The goal of the course is to develop in students the computational practices of algorithm development, problem solving and programming within the context of problems that are relevant to the lives of today's students. Students will also be introduced to topics such as interface design, limits of computers, and societal and ethical issues.

**Content:** Computer Science

**Population:** General

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### 110711 - AP Computer Science Principles

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** AP Computer Science Principles is designed to introduce students to the central ideas of computer science, to instill ideas and practices of computational thinking, and to have students engage in activities that show how computing changes the world. The course is rigorous and rich in computational content, includes computational and critical thinking skills, and engages students in the creative aspects of the field. Through both its content and pedagogy, this course aims to appeal to a broad audience.

**Content:** Computer Science

**Population:** General

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## 110730 - Computer Science and Software Engineering (PLTW)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course develops computational thinking, using the Python object-oriented programming language as a primary tool and incorporates multiple platforms and languages for computation. The course helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cyber security, and simulation. NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Computer Science

**Population:** General

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## 110752 - Special Topics, Computer Science

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Computer Science but not described in above courses.

**Content:** Computer Science

**Population:** General

# Information Technology - Web Development/Administration (110800)

Career Major- Prepares individuals to apply HTML, XML, JavaScript and other authoring tools to the design, editing, and publishing of documents, images, graphics, sound and multimedia products on the World Wide Web. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 110801 - Web Page Development

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces web page design through the use of HTML and CSS. Uses text and/or web editors to create web documents with various formats and page layouts, multimedia, tables and forms. Emphasizes W3C web design and accessibility standards.

**Content:** Web Page Design

**Population:** General

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## 110804 - Website Design and Production

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course gives the student an experience with advanced topics in planning and implementing a professional web site. Emerging technologies will be explored in creating interactive web pages that incorporate cascading style sheets, DHTML, JavaScript and multimedia and graphics. Designing for a cross-browser web site and different monitor resolutions should be covered. Introduces web site production processes with emphasis on design involving layout, navigation, interactivity and using web production software.

**Content:** Web Page Design

**Population:** General

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## 110809 - JavaScript

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides students with an overview of the JavaScript scripting language. Includes coding, testing, and debugging JavaScript programs; using variables, operators, and data types; creating dynamic web pages using JavaScript; controlling the behavior of forms, buttons, and text elements; and using control structures, pattern matching, objects, and application scripts.

**Content:** Web Page Design

**Population:** General

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## 110810 - Flash with Action Script

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will introduce Macromedia Flash. Students will gain experience in creating graphics, animation, text, forms, and special effects.

**Content:** Web Page Design

**Population:** General

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## 110852 - Special Topics, Web Development/Administration

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Web Development/Administration but not described in above courses.

**Content:** Information Technology

**Population:** General

# Information Technology - Networking (110900)

Career Major - Focuses on the design, implementation and management of linked systems of computers, peripherals, associated software. Includes introduction in systems and applications; systems design and analysis; networking theory and solutions; types of networks; network management and control; network and flow optimization; security; configuring; and troubleshooting. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 110901 - Introduction to Networking Concepts (non-vendor)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces technical level concepts of non-vendor specific networking including technologies, media, topologies, devices, management tools, and security. Provides the basics of how to manage, maintain, troubleshoot, install, operate, and configure basic network infrastructure.

**Content:** Information Technology

**Population:** General

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## 110902 - Network Fundamentals/Cisco I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. Provides the opportunity to build simple LAN topologies by applying principles of cabling; performing basic configurations of network devices, including routers and switches; and implementing IP addressing schemes. (This is the first course in the 2013 Cisco curriculum.)

**Content:** Information Technology

**Population:** General

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## 110903 - Routing Protocol and Concepts/Cisco II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides students with the skills necessary to understand and apply concepts related to networking hardware. Covers TCP/IP concepts such as IP addressing and subnetting, router configuration, routed and routing protocols. Completes one of a series of four courses that helps prepare students for the Cisco Certified Network Associate (CCNA) certification exam. (This is the second course in the 2013 Cisco curriculum.)

**Content:** Information Technology

**Population:** General

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## 110904 - LAN Switching and Wireless/Scaling Networks/Cisco III

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides students with the skills necessary to understand and apply advanced networking concepts. Covers local area network (LAN) switching, virtual local area networks (VLANs), advanced network design concepts, advanced router configuration and advanced network management projects. (This is the third course in the 2013 Cisco curriculum.)

**Content:** Information Technology

**Population:** General

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## 110905 - Accessing the WAN/Connecting Networks/Cisco IV

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides students with the skills necessary to understand and apply advanced principles and applications in deploying networking hardware. Covers WAN design, WAN connectivity protocols such as PPP, ISDN and Frame Relay, as well as advanced network management projects. (This is the fourth course in the 2013 CISCO curriculum.)

**Content:** Information Technology

**Population:** General

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## 110906 - Network Hardware Installation and Troubleshooting

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to provide students with the knowledge and skills to design, configure, troubleshoot, wire and cabling systems, and equipment involved with connecting a local area network.

**Content:** Information Technology

**Population:** General

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## 110907 - Microsoft Active Directory Server

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows Directory Services. Focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers. Assists in prepping students for exams in the Microsoft certification exam series.

**Content:** Information Technology

**Population:** General

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## 110912 - Security Fundamentals

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces basic computer and network security concepts and methodologies. Covers principles of security; compliance and operational security; threats and vulnerabilities; network security; application, data, and host security; access control and identity management; and cryptography. This course leads to the Security + Certification.

**Content:** Information Technology

**Population:** General

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## 110913 - Microsoft Client Server/Config

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Covers installation and configuration of Microsoft Windows client and server operating systems. Helps prepare students for exams in the Microsoft certification exam series.

**Content:** Information Technology

**Population:** General

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## 110917 - Internet Technologies

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides students with a study of traditional and emerging Internet technologies. Covers topics including Internet fundamentals, Internet applications, Internet delivery systems, and Internet client/server computing. Provides a hands-on experience and some programming in an Internet environment.

**Content:** Information Technology

**Population:** General

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## 110919 - Information Technology Internship

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Information Technology

**Population:** General

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## 110952 - Special Topics, Networking

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** Instruction related to Networking but not described in above courses.

**Content:** Information Technology

**Population:** General

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# Information Technology - Informatics (111000)

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## 111001 - Computers, Networks, and Databases

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This project-based-learning course engages students who are curious about Informatics. In this course, students will learn how to use a design process to create systems that acquire, store and communicate data for a variety of career fields. Students will work collaboratively in teams to design systems, problem solve, think critically, be creative and communicate with each other and business partners. Students will participate in real-world experiences such as designing an inventory system for a retail store, comparing stores in a company to project future sales, track customer buying habits and more.

**Content:** Informatics

**Population:** General

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## 111002 - Design for the Digital World

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A project-based-learning course that engages students who are interested in applying the design process to create systems such as a cloud-based digital storage system for images, design a system to automatically collect and report data on highway usage, apply a geospatial system to map a store and develop a database that studies shopping habits, etc. Through these projects, students will learn about data management, logic-based queries, the collection of data utilizing GPS and analysis utilizing GIS, and how to automate data collection to make processes more effective and efficient. They will work collaboratively in teams and demonstrate their learned knowledge and skills by presenting their new and innovative ideas, techniques and solutions to business and industry partners.

**Content:** Informatics

**Population:** General

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## 111003 - Databases in the Cloud

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This project-based-learning course is for students who successfully completed Courses 1 and 2 and are interested in more complex challenges that business and industry face. Students at this level will learn about web technologies, cloud storage, information security, data, animation, introductory computer programming and database applications. Students will take more responsibility for their own learning, problem-solving, and thinking outside of the box. Real world challenges will require higher levels of research, building, testing, analyzing and improving systems. Students design solutions for real world problems by the designing a database for ticket sales; designing security for a database; creating a game with animation; reporting information based on data for a population in a community; as well as designing, building and testing an application for a database.

**Content:** Informatics

**Population:** General

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## 111004 - Developing a Cloud Presence

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students in this capstone course will focus on the ethics of privacy, social networking, designing for clients and artificial intelligence through six authentic projects. Students will select a business partner and design, build and test a Web presence for a company that will apply the concepts from the three prior courses. Student teams will work collaboratively with a business partner to develop a proposal for the project with evaluation criteria. Once the business partner accepts the proposal, the student team will implement it by designing, planning, building the system, and testing and revising the system to meet the needs of the business. Depending on articulation agreements or state policy, opportunity for dual credit may be available to students who successfully complete this course.

**Content:** Informatics

**Population:** General

# Information Technology - Digital Design/Game Development (113600)

Provides students with a thorough understanding of techniques for designing advanced 3D games and simulations. Courses will cover 2D and 3D graphics, animation, character development, texturing, rigging, scripting and game setup using state-of-the-art software development tools.

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## 113601 - Introduction to Digital 3D Game Graphics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Emphasizes creating 3D graphics using one or more state-of-the-art software packages. Provides students with a thorough understanding of techniques for designing advanced 3D games and simulations. Courses will cover 2D and 3D graphics, animation, character development, texturing, rigging, scripting and game setup using state-of-the-art software development tools.

**Content:** Information Technology

**Population:** General

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## 113602 - Game & Engine Development, Animation (Photoshop)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces the techniques for creating textures and lighting for 3D games and simulations. This course will focus on creating games using code, animation, and an introduction to 3d design software utilized in the industry. In addition, students will see how the skills and knowledge acquired in Game Design I & II come together utilizing a game engine.

**Content:** Information Technology

**Population:** General

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## 113603 - Advanced 3D Game Development

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Develop realistic 3D characters with complete body structure. This course will focus on creating games using code, 3d characters, objects, and animation utilizing game engines. Students will see how the skills and knowledge acquired in Game Design I - III come together. Students will create work ready products for the industry.

**Content:** Information Technology

**Population:** General

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## 113604 - Digital 3D Graphics and Special Effects II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces advanced texturing and lighting techniques to enhance depth perception and realism within 3D environments.

**Content:** Information Technology

**Population:** General

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## 113605 - Game Design Principles

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is a general introduction to Game Design providing an overview of story development, gaming history, game reviews, current gaming trends and industry software. Students will begin to create and develop a game story/plot that can be further developed in higher level courses as well as critique current games. In addition, game development software will be explored to further enhance their design skills.

**Content:** Information Technology

**Population:** General



# World Languages

## (160000)

The descriptions for World Language courses other than English refer to the ACTFL Proficiency Guidelines. A summary of the Guidelines can be found at: <http://www.actfl.org/i4a/pages/index.cfm?pageid=5305>. The Kentucky Standard for World Language Proficiency provides a more detailed description at: <http://www.education.ky.gov/KDE/Instructional+Resources/High+School/Language+Learning/Other+World+Languages/Kentucky+Standard+for+World+Languages+Proficiency.htm>

# World Languages - English as a Second Language (160100)

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## 160109 - Basic English as a Second Language

**Grade Level:** 9 - 12

**Credits:** double block, 1 elective English credit

**Description:** This course addresses needs of students who are not literate in their native language or English, and who have limited formal education. The focus is on basic literacy development from surface structure to deep structure systems so that students can begin to make sense of a variety of reading materials.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160110 - ESL, Life Skills

**Grade Level:** 9 - 12

**Credits:** 1 elective English or social studies credit

**Description:** This course addresses needs of the student who is preliterate and who has limited formal schooling. The course focuses on basic communicative skills and civics concepts; provides the student with the skills needed to competently function in ESL I, Course 160121.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160121 - English as a Second Language I

**Grade Level:** 9 - 12

**Credits:** double block, 1 required English, 1 foreign language credit

**Description:** Introductory course to English as a second language for the student of limited English proficiency. Course focuses on the development of the four basic communication skills of listening, speaking, reading, and writing in English. Placement through English language proficiency assessment and evaluation by the counselor and ESL specialist.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160122 - English as a Second Language 2

**Grade Level:** 9 - 12

**Credits:** double block, 1 required English, 1 foreign language

**Description:** This course continues the study of English begun in 160121. Academic content is learned through the English language, as the four basic communication skills of listening, speaking, reading, and writing in English are developed. Prerequisite: 160121 or placement through English language proficiency assessment and evaluation by counselor and ESL specialist.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160123 - English as a Second Language 3

**Grade Level:** 9 - 12

**Credits:** 1 elective English or 1 foreign language credit

**Description:** This course continues the study of English begun in 160121 and 160122. Academic content is learned through the English language, as the four basic communication skills of listening, speaking, reading, and writing in English are developed. Prerequisite: 160122 or placement through English language proficiency assessment and evaluation by counselor and ESL specialist.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160124 - English as a Second Language, Skills Lab

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course provides individualized instruction for English language learner.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160126 - ESL Reading /Writing

**Grade Level:** 9 - 12

**Credits:** 1 elective English credit

**Description:** Course focuses on development of literacy skills using literary, informational, persuasive, and practical/workplace reading and writing materials. Companion course to English as a Second Language 1, Course 160121

**Content:** Literacy

**Population:** English Language Learners - Extensive Support

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## 160127 - English as a Second Language 4

**Grade Level:** 9 - 12

**Credits:** 1 elective English or 1 foreign language credit

**Description:** This course continues the study of English begun in 160121, 160122, and 160123. Academic content is learned through the English language, as the four basic communication skills of listening, speaking, reading, and writing in English are developed. Prerequisite: 160123 or placement through English language proficiency assessment and evaluation by counselor and ESL specialist.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160128 - ESL Writing for Juniors

**Grade Level:** 11 - 11

**Credits:** 1 elective English credit

**Description:** Course focuses on refining the student's writing skills from an ESL perspective by continuing to build cognitive academic language proficiency so that student is able to write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Content:** Writing

**Population:** English Language Learners - Extensive Support

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## 160129 - ESL Writing for Seniors

**Grade Level:** 12 - 12

**Credits:** 1 elective English credit

**Description:** Course focuses on refining the student's writing skills from an ESL perspective by continuing to build cognitive academic language proficiency so that the student is able to write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

**Content:** Writing

**Population:** English Language Learners - Extensive Support

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## 160130 - ESL/Special Topics in Social Studies

**Grade Level:** 9 - 12

**Credits:** 1 elective social studies credit

**Description:** This course presents skills and content, equivalent to those taught in general education social studies courses, to the student of limited English proficiency. Instruction and reading materials are adapted to ensure comprehension by the LEP student.

**Content:** Social Studies

**Population:** English Language Learners - Extensive Support

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## 160131 - ESL/Special Topics in Science

**Grade Level:** 9 - 12

**Credits:** 1 elective science credit

**Description:** This course presents skills and content, equivalent to those taught in general education science courses, to the student of limited English proficiency. Instruction and reading materials are adapted to ensure comprehension by the LEP student.

**Content:** Integrated Science 1

**Population:** English Language Learners - Extensive Support

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## 160132 - ESL/Special Topics in Math

**Grade Level:** 9 - 12

**Credits:** 1 math credit; may fulfill graduation requirement as the fourth math course

**Description:** This course focuses on English language and basic mathematical concepts and skills needed by LEP students with little or no prior academic experience in mathematics. Emphasis is on the development of English skills needed to be successful in mathematics courses.

**Content:** Mathematics

**Population:** English Language Learners - Extensive Support

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## 160133 - ESL/Strategies for Academic Achievement

**Grade Level:** 9 - 12

**Credits:** 1 elective English credit

**Description:** This course refines the research, study and test-taking skills of the LEP student to ensure the student has the support to achieve academically in general education courses.

**Content:** Study Skills

**Population:** English Language Learners - Extensive Support

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## 160194 - English as a Second Language, Elementary

**Grade Level:** 0 - 5

**Credits:**

**Description:** The elementary program in English as a Second Language focuses on the development of listening, speaking, reading and writing skills in English. This program is designed to support and supplement the LEP student's instructional program in the mainstream classroom.

**Content:** Elementary Education

**Population:** English Language Learners - Extensive Support

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## 160195 - Basic English as a Second Language, Middle School

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course addresses needs of students who are not literate in their native language or English, and who have limited formal education. The focus is on basic literacy development from surface structure to deep structure systems so that students can begin to make sense of a variety of reading materials.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160196 - English as a Second Language, Grade 6

**Grade Level:** 6 - 6

**Credits:**

**Description:** This course focuses on the development of the four basic communication skills of listening, speaking, reading, and writing in English. Content instruction at the student's comprehensible language level supports the student's transition to grade appropriate instructional activities in challenging academic content.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160197 - English as a Second Language, Grade 7

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course focuses on the development of the four basic communication skills of listening, speaking, reading, and writing in English. Content instruction at the student's comprehensible language level supports the student's transition to grade appropriate instructional activities in challenging academic content.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

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## 160198 - English as a Second Language, Grade 8

**Grade Level:** 8 - 8

**Credits:**

**Description:** This course focuses on the development of the four basic communication skills of listening, speaking, reading, and writing in English. Content instruction at the student's comprehensible language level supports the student's transition to grade appropriate instructional activities in challenging academic content.

**Content:** English as a Second Language

**Population:** English Language Learners - Extensive Support

# World Languages - Middle/High School - ASL (160200)

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## 160202 - American Sign Language, Grade 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160203 - American Sign Language, Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course. Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160204 - American Sign Language, Grade 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle school course. Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160205 - American Sign Language Part A for High School, Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people..

**Content:** American Sign Language

**Population:** General

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## 160206 - American Sign Language Part B for High School, Grade 8

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as first half of high school credit. Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160207 - American Sign Language for High School

**Grade Level:** 6 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160208 - American Sign Language 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Engages learners in the activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160209 - American Sign Language 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Engages learners in the activities to expand the skills to communicate with deaf persons and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 160210 - American Sign Language 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Engages learners in the activities to develop advanced knowledge and skills to express themselves and understand others beyond basic communication and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General



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## 160299 - World Language Special Topics - ASL

**Grade Level:** 6 - 12

**Credits:** 0 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** American Sign Language

**Population:** General

# World Languages - Middle/High School - Chinese (160300)

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## 160301 - Chinese Cantonese 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160302 - Chinese Cantonese 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160303 - Chinese Mandarin 1

**Grade Level:** 8 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160304 - Chinese Mandarin 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160305 - Chinese 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160306 - Chinese 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160312 - Chinese Mandarin Grade 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160313 - Chinese Mandarin Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160314 - Chinese Mandarin Grade 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160315 - Chinese Mandarin 7 part A for high school

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160316 - Chinese Mandarin 8 part B for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second first half of high school credit Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Chinese and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 160317 - Chinese Mandarin 8 for High School

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Introduces listening, speaking, reading and writing language skills within a cultural context.

**Content:** Chinese

**Population:** General

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## 160323 - Chinese Mandarin Field-based Experience

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Field-based experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Chinese is the main language spoken. Students strengthen their language skills and increase their ability to

**Content:** Chinese

**Population:** General

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## 160330 - AP Chinese Language and Culture

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students for the Advanced Placement exam. Prepares students to understand and use the complexities of language fluently and accurately to perform communicative tasks. The course engages students in an exploration of culture in contemporary and historical contexts, developing students' awareness and appreciation of tangible and intangible products, practices and perspectives.

**Content:** Chinese

**Population:** General

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## 160399 - World Language Special Topics - Chinese

**Grade Level:** 6 - 12

**Credits:** 0 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** Chinese

**Population:** General

# World Languages - Middle/High School - French (160400)

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## 160402 - French 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160403 - French 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160404 - French 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160405 - French 7 part A for high school

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160406 - French 8 part B for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second first half of high school credit Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160407 - French 8 for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

---

## 160408 - French 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160409 - French 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160410 - French 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160411 - French 4

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160412 - French 5

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of francophone and other cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 160419 - IB French, Middle Years Program

**Grade Level:** 6 - 8

**Credits:** 1

**Description:** International Baccalaureate (IB) French Middle Years program enables students to gain competence in modern French and encourage respect for an understanding of other languages and cultures.

**Content:** French

**Population:** General

---

## 160420 - French Independent Study

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Designed to allow student to pursue specific interests.

**Content:** French

**Population:** General

---

## 160421 - French Technical Language

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Develops language performance at a minimum of the Novice High level on the ACTFL Proficiency Scale for professional use in a career cluster area, such as: arts and humanities, business, health science, public services, etc.

**Content:** French

**Population:** General

---

## 160422 - French Content-Based or Immersion Study

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Immerses learners in the language for purpose of studying another content area (i.e., Arts & Humanities, Social Studies, Science, etc.)

**Content:** French

**Population:** General

---

## 160423 - French Field-based Experience

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Field-based experience courses place students in an environment in which they interact with native speakers, most typically in a setting where French is the main language spoken. Students strengthen their language skills and increase their ability to interact naturally.

**Content:** French

**Population:** General

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## 160424 - IB French 4 Language

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Develops advanced language skills needed for the International Baccalaureate exam.

**Content:** French

**Population:** General

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## 160425 - IB French 5 Language

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Develops advanced skills in reading, interpretation, and writing needed for the International Baccalaureate exam.

**Content:** French

**Population:** General

---

## 160426 - French Special Topics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focuses on specific topic of choice within the language.

**Content:** French

**Population:** General

---

## 160430 - AP French Language & Culture

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students for the Advanced Placement exam. Prepares students to understand and use the complexities of language fluently and accurately to perform communicative tasks. The course engages students in an exploration of culture in contemporary and historical contexts, developing students' awareness and appreciation of tangible and intangible products, practices and perspectives.

**Content:** AP French

**Population:** General

# World Languages - Middle/High School - German (160500)

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## 160502 - German 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160503 - German 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160504 - German 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160505 - German 7 part A for high school

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160506 - German 8 part B for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second first half of high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

---

## 160507 - German 8 for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

---

## 160508 - German 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160509 - German 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160510 - German 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160511 - German 4

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160512 - German 5

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 160520 - German Technical Language

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course develops language performance at a minimum of the Novice High level on the ACTFL Proficiency Scale for professional use in a career cluster area, such as: business, information technology, manufacturing, etc.

**Content:** German

**Population:** General

---

## 160521 - German Content-Based or Immersion Study

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Immerses learners in the language for purpose of studying another content area (i.e., Arts & Humanities, Social Studies, Science, etc.)

**Content:** German

**Population:** General

---

## 160522 - German Field-based Experience

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Field-based experience courses place students in an environment in which they interact with native speakers. Students strengthen their language skills and increase their ability to interact naturally.

**Content:** German

**Population:** General

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## 160523 - German Independent Study

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Designed to allow student to pursue specific interests.

**Content:** German

**Population:** General

---

## 160524 - German IB 4

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Develops advanced language skills with focus on oral and written expression.

**Content:** German

**Population:** General

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## 160525 - German IB 5

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Develops advanced language skills needed for the International Baccalaureate exam.

**Content:** German

**Population:** General

---

## 160526 - Special Topics German

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** German

**Population:** General

---

## 160530 - AP German Language and Culture

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students for the Advanced Placement exam. Prepares students to understand and use the complexities of language fluently and accurately to perform communicative tasks. The course engages students in an exploration of culture in contemporary and historical contexts, developing students' awareness and appreciation of tangible and intangible products, practices and perspectives.

**Content:** AP German

**Population:** General

# World Languages - Middle/High School - Greek (160600)

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## 160601 - Classical Greek 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces classical Greek structures and vocabulary within an historical context.

**Content:** Greek

**Population:** General

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## 160602 - Classical Greek 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Enable students to expand their skills and depth of knowledge through the practice of structures, forms, and vocabulary. Reading materials reflect Greek life and culture.

**Content:** Greek

**Population:** General

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## 160603 - Classical Greek 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Reinforces and builds upon classical Greek structures and vocabulary within an historical and literary context.

**Content:** Greek

**Population:** General

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## 160604 - Classical Greek 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Develops advanced classical Greek language skills within an historical and literary context.

**Content:** Greek

**Population:** General

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## 160699 - World Language Special Topics - Greek

**Grade Level:** 6 - 12

**Credits:** 0 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** Greek

**Population:** General



# World Languages - Middle/High School - Hebrew (160700)

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## 160701 - Hebrew 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Hebrew

**Population:** General

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## 160702 - Hebrew 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Hebrew

**Population:** General

---

## 160703 - Hebrew 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Hebrew

**Population:** General

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## 160704 - Hebrew 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Hebrew

**Population:** General

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## 160799 - World Language Special Topics - Hebrew

**Grade Level:** 6 - 12

**Credits:** 0 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** Hebrew

**Population:** General

# World Languages - Middle/High School - Japanese (160800)

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## 160802 - Japanese 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Japanese

**Population:** General

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## 160803 - Japanese 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Japanese

**Population:** General

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## 160804 - Japanese 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Japanese

**Population:** General

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## 160805 - Japanese 4

**Grade Level:** 11 - 12

**Credits:**

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Japanese

**Population:** General

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## 160819 - Japanese IB Middle Program

**Grade Level:** 6 - 8

**Credits:** 1

**Description:** International Baccalaureate (IB) Japanese Middle Years program enables students to gain competence in modern French and encourage respect for an understanding of other languages and cultures.

**Content:** Japanese

**Population:** General

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## 160824 - Japanese IB 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Develops advanced language skills with focus on oral and written expression

**Content:** Japanese

**Population:** General

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## 160825 - Japanese IB 5

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Develops advanced language skills needed for the International Baccalaureate exam.

**Content:** Japanese

**Population:** General

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## 160830 - AP Japanese

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students for the Advanced Placement exam. Prepares students to understand and use the complexities of language fluently and accurately to perform communicative tasks. The course engages students in an exploration of culture in contemporary and historical contexts, developing students' awareness and appreciation of tangible and intangible products, practices and perspectives.

**Content:** Japanese

**Population:** General

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## 160899 - World Language Special Topics - Japanese

**Grade Level:** 6 - 12

**Credits:** 0 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** Japanese

**Population:** General

# World Languages - Middle/High School - Latin (160900)

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## 160902 - Latin 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Prepares students to: read and interpret Latin at the novice level by introducing Latin structures and vocabulary within the historical and cultural context of the Ancient World. In addition, students develop insight into their own language and culture.

**Content:** Latin

**Population:** General

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## 160903 - Latin 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course. Prepares students to: read and interpret Latin at the novice level by introducing Latin structures and vocabulary within the historical and cultural context of the Ancient World. In addition, students develop insight into their own language and culture.

**Content:** Latin

**Population:** General

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## 160904 - Latin 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle school course. Prepares students to: read and interpret Latin at the novice level by introducing Latin structures and vocabulary within the historical and cultural context of the Ancient World. In addition, students develop insight into their own language and culture.

**Content:** Latin

**Population:** General

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## 160905 - Latin 7 part A for high school

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit. Prepares students to: read and interpret Latin at the novice level by introducing Latin structures and vocabulary within the historical and cultural context of the Ancient World. In addition, students develop insight into their own language and culture.

**Content:** Latin

**Population:** General

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## 160906 - Latin 8 part B for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second half of high school credit. Prepares students to: read and interpret Latin at the novice level by introducing Latin structures and vocabulary within the historical and cultural context of the Ancient World. In addition, students develop insight into their own language and culture.

**Content:** Latin

**Population:** General

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## 160907 - Latin Grade 8 for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Prepares students to read and interpret Latin within the novice range on the ACTFL Proficiency scale; interpret and present information, concepts and ideas on a variety of historical topics; and understand the relationship among the products, practices and perspectives of ancient Roman and other cultures.

**Content:** Latin

**Population:** General

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## 160908 - Latin 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas on a variety of topics; and understand the relationship among the products, practices and perspectives of Roman and other cultures.

**Content:** Latin

**Population:** General

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## 160909 - Latin 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas on a variety of topics; and understand the products, practices and perspectives of Roman and other cultures.

**Content:** Latin

**Population:** General

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## 160910 - Latin 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas on a variety of topics; and understand the products, practices and perspectives of Roman and other cultures.

**Content:** Latin

**Population:** General

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## 160911 - Latin 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas on a variety of topics; and understand the products, practices and perspectives of Roman and other cultures.

**Content:** Latin

**Population:** General

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## 160912 - Latin 5

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate mid to high range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas on a variety of topics; and understand the products, practices and perspectives of Roman and other cultures.

**Content:** Latin

**Population:** General

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## 160923 - Latin Independent Study

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Designed to allow student to pursue specific interests.

**Content:** Latin

**Population:** General

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## 160926 - Special Topics Latin

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focuses on specific topic of choice within the language.

**Content:** Latin

**Population:** General

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## 160931 - AP Latin

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** AP Latin is designed to provide advanced high school students with a rich and rigorous Latin course, approximately equivalent to an upper-intermediate (typically fourth or fifth semester) college or university Latin course.

**Content:** AP Latin

**Population:** General

# World Languages - Middle/High School - Russian (161000)

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## 161002 - Russian 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Russian

**Population:** General

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## 161003 - Russian 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Russian

**Population:** General

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## 161004 - Russian 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Russian

**Population:** General

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## 161005 - Russian 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Russian

**Population:** General

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## 161099 - World Languages Special Topics - Russian

**Grade Level:** 6 - 12

**Credits:** 0 1

**Description:** Focuses on specific topic of choice within the language context.

**Content:** Russian

**Population:** General

# World Languages - Middle/High School - Spanish

## (161100)

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### 161102 - Spanish 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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### 161103 - Spanish 7

**Grade Level:** 7 - 8

**Credits:** 0

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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### 161104 - Spanish 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161105 - Spanish 7 part A for high school

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161106 - Spanish 8 part B for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second first half of high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161107 - Spanish 8 for high school

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161108 - Spanish 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161109 - Spanish 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161110 - Spanish 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161111 - Spanish 4

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 161112 - Spanish 5

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The course prepares students to perform in the intermediate mid to high range while using language in the interpersonal, interpretive and presentational modes of communication on the ACTFL Proficiency scale. Students interpret, exchange, and present information, concepts and ideas on a variety of topics and understand the products, practices and perspectives of other cultures.

**Content:** Spanish

**Population:** General

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## 161119 - IB Spanish Middle Years program

**Grade Level:** 6 - 8

**Credits:** 1

**Description:** International Baccalaureate (IB) Spanish Middle Years program enables students to gain competence in modern Spanish and encourage respect for an understanding of other languages and cultures.

**Content:** Spanish

**Population:** General

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## 161120 - Spanish technical language

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course develops language performance at a minimum of the Novice High level on the ACTFL Proficiency Scale for professional use in a career cluster area, such as: agriculture, business, health science, public services, etc.

**Content:** Spanish

**Population:** General

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## 161121 - Spanish Field-based Experience

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is a field-based experience in a Spanish-speaking environment.

**Content:** Spanish

**Population:** General

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## 161122 - Field-based Experience Spanish Immersion

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Immerses learners in the language for purpose of studying another content area (i.e., Arts & Humanities, Social Studies, Science, etc.)

**Content:** Spanish

**Population:** General

---

## 161123 - Spanish Independent Study

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Designed to allow student to pursue specific interests.

**Content:** Spanish

**Population:** General

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## 161124 - IB Spanish 3

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course develops advanced Spanish language skills with focus on oral and written expression.

**Content:** Spanish

**Population:** General

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## 161125 - IB Spanish 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course develops advanced Spanish language skills needed for the International Baccalaureate exam.

**Content:** Spanish

**Population:** General

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## 161126 - Special Topics Spanish

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on specific topic of choice within the language.

**Content:** Spanish

**Population:** General

---

## 161130 - AP Spanish Language & Culture

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students for the Advanced Placement exam. Prepares students to understand and use the complexities of the Spanish language fluently and accurately to perform communicative tasks. The course engages students in an exploration of culture in contemporary and historical contexts, developing students' awareness and appreciation of tangible and intangible products, practices and perspectives.

**Content:** AP Spanish

**Population:** General

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## 161131 - AP Spanish Literature

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Provides a formal study of a body of literary texts in Spanish in preparation for the Advanced Placement Exam.

**Content:** AP Spanish

**Population:** General

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## 161141 - Spanish for native speakers 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Develops Spanish literacy skills for native speakers.

**Content:** Spanish

**Population:** General

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## 161142 - Spanish for native speakers 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Continues to develop Spanish literacy skills for native speakers.

**Content:** Spanish

**Population:** General

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## 161145 - Spanish for native speakers 3/AP

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares native speaking students to understand and use the complexities of language fluently and accurately to perform communicative tasks. The course engages students in an exploration of culture in contemporary and historical contexts, developing students' awareness and appreciation of tangible and intangible products, practices and perspectives.

**Content:** AP Spanish

**Population:** General

# World Languages - Middle/High School - Arabic (161200)

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## 161202 - Arabic, Grade 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161203 - Arabic, Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle School course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161204 - Arabic Grade 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle School course. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161205 - Arabic Part A for High School, Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school course for credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161206 - Arabic Part B for High School, Grade 8

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second half of high school course for credit. Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161207 - Arabic for High School, Grade 8

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Introduces listening, speaking, reading and writing language skills within a cultural context.

**Content:** Arabic

**Population:** General

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## 161208 - Arabic 1

**Grade Level:** 8 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161209 - Arabic 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161210 - Arabic 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161211 - Arabic 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Arabic and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 161299 - World Language Special Topics - Arabic

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focuses on specific topic of choice within the language.

**Content:** Arabic

**Population:** General

# World Languages - Middle/High School - Italian (161300)

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## 161302 - Italian, Grade 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Middle school course. Introduces listening, speaking, reading and writing language skills within a cultural context.

**Content:** Italian

**Population:** General

---

## 161303 - Italian, Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course. Builds on introductory listening, speaking, reading and writing language skills within a cultural context.

**Content:** Italian

**Population:** General

---

## 161304 - Italian, Grade 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Middle school course. Continues to build on introductory listening, speaking, reading and writing language skills within a cultural context.

**Content:** Italian

**Population:** General

---

## 161305 - Italian Part A for High School, Grade 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Middle school course offered as first half of high school credit. Introduces listening, speaking, reading and writing language skills within a cultural context.

**Content:** Italian

**Population:** General

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## 161306 - Italian Part B for High School, Grade 8

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered as second half of high school credit. Introduces listening, speaking, reading and writing language skills within a cultural context.

**Content:** Italian

**Population:** General

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## 161307 - Italian for High School, Grade 8

**Grade Level:** 8 - 8

**Credits:** 1

**Description:** Middle school course offered for high school credit. Introduces listening, speaking, reading and writing language skills within a cultural context.

**Content:** Italian

**Population:** General

---

## 161308 - Italian 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Italian and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Italian

**Population:** General

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## 161309 - Italian 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the novice high to intermediate low range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Italian and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Italian

**Population:** General

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## 161310 - Italian 3

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate low to intermediate mid-range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Italian and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Italian

**Population:** General

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## 161311 - Italian 4

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prepares students to: perform interpersonal, interpretive and presentational communicative tasks within the intermediate range on the ACTFL Proficiency scale; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of Italian and other cultures. In addition, students develop insight into their own language and culture.

**Content:** Italian

**Population:** General

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## 161315 - AP Italian

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Develops advanced language skills needed for the Advanced Placement Exam. Emphasizes skills for active communication, accuracy and fluency in oral and written expression.

**Content:** Italian

**Population:** General

---

## 161399 - World Language Special Topics - Italian

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focuses on specific topic of choice within the language.

**Content:** Italian

**Population:** General

# World Languages Elementary (165600)

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## 165601 - World Language Special Topics Immersion - ASL

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** American Sign Language

**Population:** General

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## 165602 - Elementary School ASL

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the skills to communicate with deaf persons through finger spelling, signed words, and gestures and to understand the culture of and issues facing deaf people.

**Content:** American Sign Language

**Population:** General

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## 165610 - World Language Special Topics Immersion- Chinese

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** Chinese

**Population:** General

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## 165611 - Elementary School Mandarin Chinese

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of Chinese cultures. In addition, students develop insight into their own language and culture.

**Content:** Chinese

**Population:** General

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## 165620 - World Language Special Topics Immersion - French

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** French

**Population:** General

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## 165621 - Elementary School French

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of francophone cultures. In addition, students develop insight into their own language and culture.

**Content:** French

**Population:** General

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## 165630 - World Language Special Topics Immersion - German

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** German

**Population:** General

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## 165631 - Elementary School German

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of German culture. In addition, students develop insight into their own language and culture.

**Content:** German

**Population:** General

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## 165640 - World Language Special Topics Immersion - Japanese

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** Japanese

**Population:** General

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## 165641 - Elementary School Japanese

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of Japanese cultures. In addition, students develop insight into their own language and culture.

**Content:** Japanese

**Population:** General

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## 165650 - World Language Special Topics - Latin

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Focuses on specific topic of choice within the language.

**Content:** Latin

**Population:** General

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## 165651 - Elementary School Latin

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics. Generally includes an introduction to classical Latin structures, vocabulary, root words, and Roman culture.

**Content:** Latin

**Population:** General

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## 165660 - World Language Special Topics Immersion - Russian

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** Russian

**Population:** General

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## 165661 - Elementary School Russian

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of Russian speaking cultures. In addition, students develop insight into their own language and culture.

**Content:** Russian

**Population:** General

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## 165670 - World Language Special Topics Immersion - Spanish

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** Immerses learners in the language for the purpose of learning other grade level content areas (i.e., Math, Science, etc.)

**Content:** Spanish

**Population:** General

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## 165671 - Elementary School Spanish

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects are typically included in order to understand the relationship among the products, practices and perspectives of Spanish speaking cultures. In addition, students develop insight into their own language and culture.

**Content:** Spanish

**Population:** General

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## 165680 - World Language Special Topics - Arabic

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Introduces listening, speaking and writing skills within a cultural and/or content-based immersion context.

**Content:** Arabic

**Population:** General

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## 165681 - Elementary School Arabic

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of Arabic culture. In addition, students develop insight into their own language and culture.

**Content:** Arabic

**Population:** General

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## 165690 - World Language Special Topics - Italian

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Introduces listening, speaking and writing skills within a cultural and/or content-based immersion context.

**Content:** Italian

**Population:** General

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## 165691 - Elementary School Italian

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Engages learners in developmentally appropriate activities to acquire the language necessary to communicate within the novice range on the ACTFL Proficiency scale on a variety of topics, including connections to other subject areas. Cultural aspects of the people(s) speaking the language being learned are typically included in order to understand the relationship among the products, practices and perspectives of Italian culture. In addition, students develop insight into their own language and culture.

**Content:** Italian

**Population:** General

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## 165699 - Elementary School World Language Special Topics Immersion

**Grade Level:** 1 - 8

**Credits:** 0

**Description:** This class facilitates the learning of a world language within the novice to intermediate range on the ACTFL Proficiency scale through a specific grade level content area, such as science, math, etc. NOTE: A specific language content must be assigned manually for each section of this course.

**Content:** None

**Population:** General

# **Health Science**

## **(170000)**

# Health Science - Career Major Electives (170100)

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## 170111 - Principles of Health Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Orientation and foundation for occupations and functions across the health care cluster.

Includes broad health care core standards which specify the knowledge and skills that the vast majority of health care workers should have. Prerequisite to additional courses in the Health Science Program.

**Content:** Health Science (CTE)

**Population:** General

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## 170131 - Medical Terminology

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** An intense study of the medical language used in all health career major areas. Pronunciation, spelling and application rules of medical terminology are included.

**Content:** Health Science (CTE)

**Population:** General

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## 170141 - Emergency Procedures

**Grade Level:** 9 - 12

**Credits:** 0.5-1

**Description:** This course is intended to combine all existing courses in the Health Science Cluster to include foundational emergency skills for all Health Science Career Pathway students. This course will include certifications in: Cardiopulmonary Resuscitation for the Healthcare Provider; AED; bloodborne pathogen; first aid; and emergency care as outlined by an approved first aid/CPR/Bloodborne Pathogen certifying agency as put forth by the American Heart Association, National Safety Council or American Red Cross.

**Content:** Health Science (CTE)

**Population:** General

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## 170167 - Body Structures and Functions

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to provide knowledge of the structure and function of the human body with an emphasis on normalcy. The interactions of all body systems in maintaining homeostasis will promote an understanding of the basic human needs necessary for health maintenance. Academic knowledge from life science core content as it relates to the human body (including anatomy and physiology) are included. Laboratory activities should be a part of the course when appropriate.

**Content:** Health Science (CTE)

**Population:** General

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## 170169 - Medical Math

**Grade Level:** 9 - 12

**Credits:** 0.5-1

**Description:** This course is designed to focus, utilize and build on mathematical skills commonly used in all health occupations. Students will use applied techniques, problem-solving and critical thinking to perform mathematical operations such as computations, ratio and proportion, weights and measurements and conversions. This course is strongly recommended for all Health Science majors. Successful completion of Algebra I is suggested prior to enrolling in this course. This course may meet the requirements for the fourth elective mathematics credit required for graduation with an allied health major.

**Content:** Health Science (CTE)

**Population:** General

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## 170199 - Leadership Dynamics - Health Science

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

# Health Science - Sports Medicine (170300)

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## 170301 - Essentials of Sports Medicine

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** An instructional program that prepares individuals to perform routine sports medicine related services for the physically active, under the training and supervision of an approved licensed athletic trainer. The purpose of this program is to give individuals knowledge and skills to prevent, recognize, and provide basic care for injuries and sudden illness.

**Content:** Health Science (CTE)

**Population:** General

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## 170302 - Applied Sports Medicine

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** An instructional program that emphasizes the prevention, assessment and care for injuries and illness to the physically active including the components of exercise science, anatomy, and principles of safety under the supervision of an approved licensed athletic trainer. Subject matter also includes legal issues, acute care skills, nutrition, human performance, taping and wrapping, therapeutic modalities, and application of sports medicine concepts.

**Content:** Health Science (CTE)

**Population:** General

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## 170303 - Internship: Sports Medicine

**Grade Level:** 11 - 12

**Credits:** 0.5-1

**Description:** The internship provides supervised on-the-job work experience related to the students' education objectives. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

**Content:** Health Science (CTE)

**Population:** General



# Health Science - Allied Health (170500)

A group of courses for students interested in pursuing a health career that serve as a foundation for further studies in the broad health care field. Courses are aligned with national Health Science Core Standards.

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## 170501 - Allied Health Core Skills

**Grade Level:** 11 - 12

**Credits:** 0.5-1

**Description:** Allied Health Core Skills is designed to provide knowledge, concepts and psychomotor skills necessary for gainful employment as an entry-level health care worker. Assisting students in selecting a career major, classroom instruction and educational objectives are combined with learning experiences and observations and clinical rotations. This course is designed for students not enrolled in the Medicaid Nurse Aide program and who have completed Principles of Health Science and Emergency Procedures.

**Content:** Health Science (CTE)

**Population:** General

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## 170550 - Internship: Allied Health

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** The practicum provides supervised on-the-job work experience related to the students' education objectives. Students participating in the practicum do not receive compensation.

**Content:** Health Science (CTE)

**Population:** General

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## 170551 - Internship: Child Care Worker

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The practicum provides supervised on-the-job work experience related to the students' education objectives in the area of child care. Students participating in the practicum do not receive compensation.

**Content:** Health Science (CTE)

**Population:** General

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## 170552 - Internship: Dental Assistant

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This internship provides supervised on-the-job work experience related to the students' education objectives in the area of Dental Assisting. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

**Content:** Dental

**Population:** None

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## 170555 - EKG Technician

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The practicum provides supervised on-the-job work experience related to the students' education objectives in the area of EKG. Students participating in the practicum do not receive compensation.

**Content:** Health Science (CTE)

**Population:** General

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## 170558 - Pharmacy Technician

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This is an online (computer assisted) or traditional course with a pharmacy internship that prepares students for the National Pharmacy Technician Certification (CPhT). You will gain the skills and knowledge to qualify for entry-level positions in a hospital or retail setting.

**Content:** Health Science (CTE)

**Population:** General

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## 170567 - Medical Laboratory Aide (Phlebotomist)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of Medical Laboratory Aide/Phlebotomist. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

**Content:** Health Science (CTE)

**Population:** General

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## 170591 - Special Topics in Allied Health

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** Special Topics in Allied Health is an expanded course offering the study of current world health-related issues. Topics may vary at the discretion of the instructor. (.5 to 1 credit)

**Content:** Health Science (CTE)

**Population:** General

# Health Science - Pre-Nursing (170600)

An instructional program that prepares students to work as an entry-level nursing assistant upon successful completion of the state Medicaid Nurse Aid program and examination. Additional courses to complete a career major are found under Allied Health career major.

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## 170601 - Co-op (Nursing)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Health Science (CTE)

**Population:** General

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## 170610 - Introduction to Nursing and Health Care System

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Historical overview of current health care including medical economics, ethical and legal parameters, roles and responsibilities of health care team members with an emphasis on reflective nursing practice. Medical terminology, therapeutic communication techniques, concepts of health, health assessment, self-care and basic needs related to activities of daily living (ADL) across the lifespan are explored.

**Content:** Health Science (CTE)

**Population:** General

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## 170611 - Development of Care Giver Role

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduction to nursing and the nursing process as related to client activities of daily living across the life span; opportunity to develop and practice psychomotor skills related to health assessment, promotion, maintenance, and illness prevention.

**Content:** Health Science (CTE)

**Population:** General

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## 170614 - Pharmacological and Other Therapeutic Modalities

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduction to techniques used to administer commonly used drugs; dosage calculations; diagnostic studies and other related medical therapies; legal responsibilities.

**Content:** Health Science (CTE)

**Population:** General

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## 170620 - Advanced Nursing Assistant

**Grade Level:** 10 - 12

**Credits:** 3

**Description:** Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. The focus is communication, infection control, safety, resident/patient rights, and basic nursing skills. Prepares the student to perform basic nursing skills at an advanced level.

**Content:** Health Science (CTE)

**Population:** General

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## 170631 - Medicaid Nurse Aide

**Grade Level:** 11 - 12

**Credits:** 1-2

**Description:** An instructional program that prepares individuals to perform routine nursing-related services to patients in hospitals or long-term care facilities, under the training and supervision of an approved registered nurse or licensed practical nurse. State Registry is available upon successful completion of state written and performance examination. Prior to offering this course, the instructor and health science program must be approved for meeting state requirements set by the Cabinet for Health and Family Services.

**Content:** Medicaid Nurse Aide

**Population:** General

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## 170640 - Health Science Microbiology/Infection Control

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course is designed to promote an understanding of the effects of microorganisms on the human body. The study includes standard precautions necessary for health maintenance and infection control. The focus is on reduction of diseases that interfere with basic human needs.

**Content:** Health Science (CTE)

**Population:** General

# Health Science - Biomedical Science (170700)

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## 170701 - Principles of Biomedical Science

**Grade Level:** 9 - 11

**Credits:** 1

**Description:** Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses. NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Biomedical Science

**Population:** General

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## 170702 - Human Body Systems

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** Students will engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems will be studied as "parts of a whole" working together to keep the amazing human machine functioning at an optimal level. Students will design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students will work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries. NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Biomedical Science

**Population:** General

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## 170703 - Medical Interventions

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Student projects will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will study the design and development of various medical interventions including vascular stents, cochlear implants, and prosthetic limbs. They will review the history of organ transplants and gene therapy, and read current scientific literature to be aware of cutting edge developments. Using 3-D imaging software and current scientific research students will design and build a model of a therapeutic protein. NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Biomedical Science

**Population:** General

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## 170704 - Biomedical Innovations

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This capstone course gives student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare. NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Biomedical Science

**Population:** General

# Health Science - Veterinary Assisting (170800)

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## 170801 - Principles of Veterinary Assisting

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is a fundamental course provides a Health Science student with an opportunity to develop and demonstrate knowledge and skills in veterinary assisting. Students are introduced to Animal Behavior & Restraint, Sanitation and Safety as pertains to Veterinary Hospital, and Radiology. Small Animal Nutrition, Canine Breeds, and Zoonotic diseases are covered. This is the first of three courses to prepare students for the NAVTA (National Association of Veterinary Technicians in America) Approved Veterinary Assistant (AVA) certification.

**Content:** Animal Science

**Population:** General

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## 170802 - Veterinary Assisting Skills

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This skills-based course offers students the ability to master skills involved in veterinary assisting. Skills involving grooming, proper restraining, preliminary physical examination, employability, surgical preparation and assisting, and laboratory techniques are introduced and practiced in the clinical setting. Units in Pharmacology, Small Animal Diseases and Parasitology are also covered along with Feline Breeds. This is the final course to prepare students for the NAVTA (National Association of Veterinary Technicians in America) Approved Veterinary Assistant (AVA) certification. Qualified students will take this examination at the end of this course.

**Content:** Animal Science

**Population:** General

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## 170803 - Advanced Veterinary Assisting Skills

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course offers the student the opportunity to expand knowledge of veterinary assisting by discussing the history and domestication of animals, identifying breeds (Equine, Bovine, Porcine), anatomy and physiology/ pharmacology, dentistry, as well as Livestock parasitology and nutrition. The student will continue perfecting their skills in the clinical setting.

**Content:** Animal Science

**Population:** General

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## 170804 - Veterinary Assisting Internship

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The internship provides supervised on-the-job work experience related to the students' education objectives in the area of veterinary assistant. The student's participating in the internship should have successfully completed the prior courses in the Veterinary Assisting pathway.

**Content:** Health Science (CTE)

**Population:** General

# Health Science - Medical Administrative Assistant (170900)

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## 170920 - Medical Office Procedures

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Provides a working knowledge of the duties required in a medical office. Includes professional and career responsibilities, interpersonal communication, administrative responsibilities, and financial administration.

**Content:** Health Science (CTE)

**Population:** General

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## 170922 - Internship: Medical Administrative Assistant

**Grade Level:** 12 - 12

**Credits:** 1

**Description:** The internship provides supervised work site experience related to the students education objectives in the area of medical administrative assistant. Students participating in internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a trimester/semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (trimester/semester or less).

**Content:** Health Science (CTE)

**Population:** General

# Family & Consumer Sciences (200000)

A group of instructional programs that prepares individuals at all educational levels for the family and consumer sciences skills needed for life and extending to teaching family and consumer science or extension agent, emphasizing the acquisition of knowledge and the comprehension of attitudes, standards, values and skills relevant to individual and family life and nurturing. Includes instruction in consumer education, child growth and development, housing and home management (including resource management), and clothing and textiles. Also, prepares individuals for balancing work and family roles and enhancing employability skills.

# Family & Consumer Sciences - Career Pathway Electives (200100)

A group of instructional programs that prepares individuals at all educational levels for the family and consumer sciences skills needed for life and extending to teaching family and consumer science or extension agent, emphasizing the acquisition of knowledge and the comprehension of attitudes, standards, values and skills relevant to individual and family life and nurturing. Includes instruction in consumer education, child growth and development, housing and home management (including resource management), and clothing and textiles. Also, prepares individuals for balancing work and family roles and enhancing employability skills. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 200110 - Introduction to FACS Essentials 6

**Grade Level:** 6 - 6

**Credits:** 0

**Description:** Basic principles; understanding personal growth and development; foods and nutritional needs; child care; significance of home and interpersonal relationships; careers

**Content:** Family and Consumer Sciences

**Population:** General

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## 200111 - Introduction to FACS Essentials 7

**Grade Level:** 7 - 7

**Credits:** 0

**Description:** Basic principles; foods and nutrition; clothing and textiles; consumer education; child care; goal setting and decision making; careers

**Content:** Family and Consumer Sciences

**Population:** General

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## 200112 - Introduction to FACS Essentials 8

**Grade Level:** 8 - 8

**Credits:** 0

**Description:** Basic principles and concepts; clothing and textiles, parenting, interpersonal relationships; consumer education; nutrition and foods; goal setting and decision making; careers; enabling skills and processes

**Content:** Family and Consumer Sciences

**Population:** General

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## 200113 - FACS Essentials

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** Introductory Course; meal preparation and nutrition; home environment; child development; consumer education; family living; family health; careers; enabling skills and processes

**Content:** Family and Consumer Sciences

**Population:** General

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## 200161 - FACS Essentials Health

**Grade Level:** 9 - 10

**Credits:** 1/2 - 1

**Description:** Basic principles of individual and family well-being; wellness; nutrition; mental health problems food related diseases; goals, decisions, time management and stress management; conflict resolution; body systems and structure; first aid, emergencies and safety; related careers

**Content:** FCS Life Skills/Health for Health Credit

**Population:** General

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## 200171 - Relationships

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** Peer relations; family relations; self-understanding; pre-marital concerns; parenthood; child abuse, divorce

**Content:** Family and Consumer Sciences

**Population:** General

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## 200173 - Parenting

**Grade Level:** 10 - 12

**Credits:** 0.5 - 1

**Description:** This course is designed to aid students in developing parenting and care giving skills that can be applied in a variety of situations. Major topics include becoming an informed parent, understanding prenatal development, caring for the newborn, being an effective parent/caregiver, caring for the sick and elderly and exploring career opportunities in care giving.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200199 - FACS Leaders at Work

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

# Family & Consumer Sciences - Early Childhood Education (200200)

Career Major: A group of instructional programs that prepares individuals for the occupations in early childhood education. Child care and guidance, foster care/family day care and teacher assistance are often under the supervision of professional personnel. Includes instruction in child growth and development, nutrition, program planning and management, safety and behavior guidance; recreation and play activities. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 200201 - Early Childhood Education Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE Courses provide supervised work-site experience for high school students who have completed courses leading to a career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. Students receiving pay for intern experience are those participating in an experience that is a semester or longer and have an established employee-employer relationship. A non-paid internship affects those students who participate on a short term basis.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200210 - Early Childhood Education Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200219 - Special Topics in Child Development

**Grade Level:** 9 - 12

**Credits:** 1/2 -1

**Description:** Instruction related to Child Development but not described in above courses

**Content:** Family and Consumer Sciences

**Population:** General

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## 200223 - Early Lifespan Development

**Grade Level:** 9 - 12

**Credits:** 0.5-1

**Description:** This course addresses the concepts related to understanding the areas and stages of human growth and development, recognizing effects of heredity and environment on human growth and development, meeting the needs of exceptional children, promoting optimum growth and development in the infancy, toddler, and preschool stages. Careers in child/human development are explored. Leadership development will be provided through the Family, Career and Community Leaders of America.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200226 - Middle to Late Lifespan Development

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** This course addresses the practical problems related to understanding the types and stages of human growth and development, recognizing effects of heredity and environment on the life stages, meeting the needs of exceptional children, promoting optimum growth and development in the middle childhood, adolescent, and adulthood stages. Careers in child/human development and adult care services are explored. Leadership development will be provided through the Family, Career and Community Leaders of America.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200261 - Child Development Services I

**Grade Level:** 11 - 12

**Credits:** 1-2

**Description:** This course provides training for entry-level positions in day care centers, nurseries, kindergartens, and private homes. Students study careers in child development, child development and guidance, children's health and well-being in group care, value of play, teaching strategies and management, and curriculum development. The subject content is reinforced with work experience in a variety of childcare establishments.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200262 - Child Development Services II

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Preparation for developing and managing effective child care programs and facilities. Includes instruction in the management of financial operations; selecting and developing facilities; selecting staff and staffing patterns; providing for staff development opportunities; developing a total program for children and working with parents, community organizations and others concerned with children.

**Content:** Family and Consumer Sciences

**Population:** General

# Family & Consumer Sciences - Cosmetology (200300)

The Cosmetology Program provides the secondary student with orientation, exploration, and preparation into the Cosmetology industry. Courses are sequenced to provide continuous student progress toward achievement of a career major goal. The integration of mathematics, science, communication and technical knowledge is a vital component of each offering. This program assists the student in developing essential cognitive, affective, and psychomotor skills. The program is designed for students who desire entry-level training and/or plan to enroll in a postsecondary program to complete the training begun in the high school Cosmetology program. After obtaining a satisfactory performance level in the cosmetology core competencies, the student will develop manipulative skills and practice procedures utilizing mannequins and classmates. After 300 hours, the student will begin to apply procedures on clients under the direct supervision of the instructor.

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## 200310 - Basic Nail Technology, 4-1

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** Provides knowledge of the art and science of nail technology including the rules and regulations of the State Board of Cosmetology as they apply to the salon. Bacteriology and infection control through the practice of sanitation procedures. The study of the cells, structure of the hand, arm, nail, and their diseases and disorders are included. The study of beauty salon management, including the practice of interacting with clients, co-workers, and supervisors. Students practice on classmates and progress to work on clients.

**Content:** Cosmetology

**Population:** General

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## 200311 - Applied Nail Technology, 4-2

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** A continuation of nail technology is studied. A comprehensive written and practical exam will be given in preparation for State Board Licensure. Students are expected to exhibit a high performance level.

**Content:** Cosmetology

**Population:** General

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## 200312 - Cosmetology IV, 4-4

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** This course is designed for a total review of the cosmetology curriculum. A comprehensive written and practical exam is given in preparation for the State Board Licensure exam. Students implement their own judgment of procedures and solutions to be used on clients with supervision.

**Content:** Cosmetology

**Population:** General



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## 200313 - Advanced Cosmetology I

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** This course is designed for a total review of the cosmetology curriculum. A comprehensive written and practical exam is given in preparation for the State Board Licensure exam. Students implement their own judgment of procedures and solutions to be used on clients with supervision.

**Content:** Cosmetology

**Population:** General

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## 200320 - Cosmetology I, 4-1

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** This course is designed to cultivate proper attitude and behavior patterns needed to create a successful cosmetologist. Kentucky Statutes and Regulations, safety, microbiology, sanitation, infection control, first aid treatment, structure, and disorders of the nail are studied. Basic fundamentals of hair, skin and nail care, hair styling and shaping, manicures and pedicures, chemical and thermal services, and wigs are introduced. The student, in developing manipulative skills and practicing procedures, utilizes mannequins and classmates. After 300 hours, students begin to apply procedures on clients under the direct supervision of the instructor.

**Content:** Cosmetology

**Population:** General

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## 200322 - Cosmetology II, 4-2

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** A study of basic chemistry emphasizes the physical and chemical properties of cosmetic materials. Electricity and light therapy are discussed and an in-depth study of anatomical structures affected by cosmetological services including disorders of the skin, scalp, and hair. The instructor gives the students progressively more difficult assignments with close supervision.

**Content:** Cosmetology

**Population:** General

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## 200323 - Cosmetology III, 4-3

**Grade Level:** 10 - 12

**Credits:** 2.5

**Description:** Provides knowledge of the structure and function of the human body, including the interaction of all the body systems in maintaining homeostasis. All phases of beauty salon management are studied, including interacting with clients, co-workers and supervisors. Laboratory experience is advanced with performance expectations set at a higher level.

**Content:** Cosmetology

**Population:** General

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## 200379 - Special Problems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This is a course designed for a student who has demonstrated a need for specific studies.

**Content:** Cosmetology

**Population:** General

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## 200387 - Student Teaching I, 5-1

**Grade Level:** 10 - 12

**Credits:** 3

**Description:** This course is an introduction to teaching methods used in training cosmetology and nail technology students. This is inclusive of theory, class methods of lecture, media use, and testing methods. This class is an introduction to training teachers for methods used to teach the practical application of learned skills.

**Content:** Cosmetology

**Population:** General

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## 200388 - Student Teaching II, 5-2

**Grade Level:** 10 - 12

**Credits:** 3

**Description:** This course continues to expand the apprentice instructor's ability to apply various methods used to train cosmetology and nail technology students.

**Content:** Cosmetology

**Population:** General

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## 200389 - Student Teaching III, 5-3

**Grade Level:** 10 - 12

**Credits:** 3

**Description:** This course gives preparatory work which enables the apprentice instructor to prepare for the Kentucky Board of Hairdressers instructor exam.

**Content:** Cosmetology

**Population:** General

# Family & Consumer Sciences - Culinary Arts and Food Science (200400)

A group of instructional programs that prepare individuals in managerial, production, and service skills used in institutional, commercial, or self-owned food establishments or other food industry occupations. Includes instruction in planning, selecting, storing, purchasing, preparing, and serving quality food and food products; nutritive values; safety and sanitation precautions; use and care of commercial equipment, serving techniques; special diets. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 200409 - Culinary Arts Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Culinary Skills

**Population:** General

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## 200411 - Culinary I

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This advanced course allows students to increase competencies in a variety of food preparation techniques. Emphasis will be placed on food presentation, garnishing, menu planning and the skills necessary to prepare for a career in the culinary arts. Leadership development will be provided through the Family, Career and Community Leaders of America

**Content:** Culinary Skills

**Population:** General

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## 200412 - Culinary II

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** In this course students resume progress in pursuing competencies in food production and services. Orientation to the food service industry and development of food preparation skills are reinforced. Food service management functions are introduced. More in-depth information is provided and higher levels of skills are taught. Time is provided for work based learning opportunities. Leadership development will be provided through the Family, Career and Community Leaders of America. Food preparation; bakery operation; dinner catering; model restaurant; laws and regulations; unions; safety, sanitation; receive, store and issue food are addressed.

**Content:** Culinary Skills

**Population:** General

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## 200414 - Fundamentals of Dietetics

**Grade Level:** 11 - 12

**Credits:** 1-2

**Description:** This course provides an overview of the dietetics field of work including the study of professional ethics and practices, career training and credentialing requirements, dietary research, lifespan and community nutrition, counseling and communication, and legislative law related to the field of dietetics and human nutrition. Work-based learning opportunities may be provided through the course curriculum.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200415 - Nutritional and Food Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Eating patterns; nutrition science; consumer aspects; world hunger; fitness foods; application of scientific principles.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200416 - Interdisciplinary Nutritional and Food Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Application of physical and life science; identifying qualities of various foods; collecting and testing food samples as directed; making elementary statistical calculations; recording test results; comparing test results with samples or prepared standards; reporting variations from standards.

**Content:** Nutritional and Food Science for the Life Science Component within the Science Requirement

**Population:** General

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## 200441 - Foods and Nutrition

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** This course is designed to assist students in making critical decisions about food, which contributes to health and well-being. Laboratory instruction is included as an application process. Practical problems addressed relate to attitudes toward food, nutrition facts, special health concerns and diets, management of food resources, preparation skills, food safety, sanitation and careers in nutrition and food service.

**Content:** Culinary Skills

**Population:** General

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## 200442 - Advanced Foods and Nutrition

**Grade Level:** 10 - 12

**Credits:** 0.5-1

**Description:** This course is designed to assist students in principles related to food preparation. Specific content addressed will include planning, serving, food presentation, special diets, nutrition for the lifespan, serving, and food planning for entertainment services. An emphasis on careers related to food service and nutrition (i.e. catering, dietician and other culinary careers). Lab instruction emphasizes the application process. Leadership development will be provided through the Family, Career and Community Leaders of America.

**Content:** Culinary Skills

**Population:** General

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## 200478 - Culinary Arts Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Culinary Skills

**Population:** General

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## 200499 - Special Topics in Culinary Arts

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Culinary Arts but not described in above courses

**Content:** Culinary Skills

**Population:** General

# Family & Consumer Sciences - Hospitality Services (200600)

A group of instructional programs that prepare individuals for occupations in hospitality such as: concierge, dining, housekeeping for hotel and/or motel; commercial cleaning; provision of services to the aged in their homes and in institutions; and assistance to consumers in relation to housing/food, clothing, community resources, and other concerns. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 200601 - Hospitality Services Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Family and Consumer Sciences

**Population:** General

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## 200610 - Principles of Hospitality

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed for students interested in careers in the hospitality industry. The instruction includes career awareness in the areas of recreation, travel/tourism, hotel/motel, and restaurant. This course is based on the family and consumer sciences core that includes communication skills, economics, food and beverage operations, promotion, selling, and product/service management. Leadership development will be provided through FCCLA activities and competitive events.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200641 - Specialized Services in Hospitality

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Advanced instruction and training to assist persons with personal, social, and business affairs; care for apparel and linens; preparation and service of meals; safety; keeping clean facilities; correspondence and paying bills; outings for exercise and social activities

**Content:** Family and Consumer Sciences

**Population:** General

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## 200671 - Special Topics in Hospitality Services

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Hospitality Services but not described in above courses

**Content:** Family and Consumer Sciences

**Population:** General

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## 200690 - Hospitality Services Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Family and Consumer Sciences

**Population:** General

# Family & Consumer Sciences - Fashion and Interior Design (200800)

This major prepares students in the entire spectrum of fashion and interior design including home furnishings, construction of apparel, and textiles management, production and services. Fashion design includes construction and design of apparel and accessories, fabric and pattern design, principles of clothing selection and care, custom tailoring, and textiles testing. Interior design includes instruction in selecting and maintaining home furnishings and equipment; and upholstery; planning and designing interior spaces; making slipcovers, draperies, curtain and window treatments, and designing accessories for retail sale.

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## 200801 - Fashion & Interior Design Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Family and Consumer Sciences

**Population:** General

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## 200810 - Fashion & Interior Design Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200821 - Fashion and Interior Design I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides opportunities for students to develop career competencies in the fashion and/or interiors industry by applying information related to social, economic, and media influences. Students apply knowledge of design principles and processes through skill performance activities.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200825 - Fashion and Interior Design II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides opportunities for students to develop career competencies in the fashion and/or interiors industry. Practical problems include advanced textile construction techniques, and/or the creation of floor plans using technological resources. Entrepreneurial opportunities will be explored. Application of skills will occur in a variety of work sites.

**Content:** Family and Consumer Sciences

**Population:** General

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## 200831 - Special Topics in Fashion and Interior Design

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Fashion and Interior Design but not described in above courses

**Content:** Family and Consumer Sciences

**Population:** General

# Family & Consumer Sciences - Consumer and Family Management (201000)

The Consumer & Family Management pathway prepares individuals for occupations that provide direct services to individuals and families in areas of money management, consumer decision-making skills, family relationships, and adult/elder care. Many individuals in these occupations are employed through community and governmental agencies while others may be self-employed. Examples of jobs in this major include: clinical psychologist, marriage counselor, lawyer (specializing in family issues), personal finance advisor, director of human services and loan officer.

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## 201010 - Money Skills

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to prepare students to understand and use sound financial management skills and practices contributing to financial stability, improving the quality of life for individuals and families. Decision-making, problem solving, goal setting and using technology are integrated throughout the content. Leadership development will be provided through the Family, Career and Community Leaders of America.

**Content:** Family and Consumer Sciences

**Population:** General

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## 201011 - Money Skills for Math

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed to provide students with math concepts needed in developing sound money management skills which will help to improve the quality of life for individuals and their families. Components of math, decision making and problem solving skills, goal setting and technology will be integral components of the course. A correlation to the math content in the program of studies was used in developing this course to count as a fourth math elective. Leadership development will be coordinated through Family, Career and Community Leaders of America student organization.

**Content:** Money Skills for the Math Elective Requirement

**Population:** General

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## 201015 - Consumer Economics for Economics within Social Studies

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Family finance; insurance; banking; credit purchasing; economic principles and systems; global economy; investments; decision making process.

**Content:** Consumer Economics for Economics within Social Studies

**Population:** General

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## 201051 - Special Topics in Consumer and Family Management

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Consumer and Family Management but not described in above courses

**Content:** Family and Consumer Sciences

**Population:** General

# **Engineering and Technology Program Area (210000)**

The Engineering and Technology program is a study of technology, innovation, design, and engineering, which provides an opportunity for students to learn about the processes and knowledge related to technology that are needed to solve problems and extended human capabilities.

# Engineering and Technology - Technology (210100)

Career Major: Technology courses derive content from the study of technology, innovation, design, and engineering, which provides an opportunity for students to learn about the processes and knowledge related to technology that are needed to solve problems and extend human capabilities. Any course not found under this career major/sub code may be found in another career major/sub code within this program area.

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## 210101 - Invention and Innovation, Grades 6-8

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course provides students with opportunities to apply the design process in the invention or innovation of a new product, process, or system. In this course, students will learn all about invention and innovation. They will have opportunities to study the history of invention and innovations, including their impact on society. They will learn about the core concepts of technology, and about the various approaches to solving problems, including engineering design and experimentation. Students will apply their creativity in the invention and innovation of new products, processes, or systems. Finally students learn about how various invention and innovations impact their lives. Students participate in engineering-design activities to understand how criteria, constraints, and processes affect design. Students are involved in activities where they learn about brainstorming, visualizing, modeling, constructing, testing, experimenting, and refining design. Students also develop skills in researching for information, communicating design information, and reporting results. This Course may be 6 to 18 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210102 - Invention and Innovation, Grades 9

**Grade Level:** 9 - 9

**Credits:** 1

**Description:** This course provides students with opportunities to apply the design process in the invention or innovation of a new product, process, or system. In this course, students will learn all about invention and innovation. They will have opportunities to study the history of invention and innovations, including their impact on society. They will learn about the core concepts of technology, and about the various approaches to solving problems, including engineering design and experimentation. Students will apply their creativity in the invention and innovation of new products, processes, or systems. Finally students learn about how various invention and innovations impact their lives. Students participate in engineering-design activities to understand how criteria, constraints, and processes affect design. Students are involved in activities where they learn about brainstorming, visualizing, modeling, constructing, testing, experimenting, and refining design. Students also develop skills in researching for information, communicating design information, and reporting results. This Course may be 6 to 18 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210103 - Technological Systems, Grades 6-8

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course is intended to inform students how technological systems work together to solve problems and capture opportunities. A system can be as small as two components working together (technical system/device level) or can contain millions of interacting devices (use system/network level). We often break down the macro-systems into less complicated micro-systems in order to understand the entire system better. However, technology is becoming more integrated and systems are becoming more and more dependent upon each other than ever before. Electronic systems are interacting with natural (i.e. biological) systems as humans use more and more monitoring devices for medical reasons. Electrical systems are interacting with mechanical and fluid-power systems as manufacturing establishments become more and more automated. This course will give students general background on the different types of systems but will concentrate more on the connections between these systems. This course may be 6 to 18 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210104 - Technological Systems, Grade 9

**Grade Level:** 9 - 9

**Credits:** 1/2

**Description:** This course is intended to inform students how technological systems work together to solve problems and capture opportunities. A system can be as small as two components working together (technical system/device level) or can contain millions of interacting devices (use system/network level). We often break down the macro-systems into less complicated micro-systems in order to understand the entire system better. However, technology is becoming more integrated and systems are becoming more and more dependent upon each other than ever before. Electronic systems are interacting with natural (i.e. biological) systems as humans use more and more monitoring devices for medical reasons. Electrical systems are interacting with mechanical and fluid-power systems as manufacturing establishments become more and more automated. This course will give students general background on the different types of systems but will concentrate more on the connections between these systems. This course may be 6 to 18 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210105 - Special Technology Topics, Grades 6-8

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Special Technology Topics allows the teacher to develop a course for in-depth exploration of technological topics. This course will allow students to gain a more comprehensive knowledge of a particular technology topic or explore specialized technology careers. This can be accomplished in a laboratory environment through a variety of instructional strategies. Instruction can be enriched through participation in Kentucky Technology Student Association challenges and/or Project Lead the Way-Gateway to Technology program materials. This optional/additional course may be 6 to 18 weeks in duration and may be taught at any grade level as appropriate.

**Content:** Engineering and Technology

**Population:** General

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## 210106 - Special Technology Topics

**Grade Level:** 9 - 9

**Credits:** 1/2

**Description:** Special Technology Topics allows the teacher to develop a course for in-depth exploration of technological topics. This course will allow students to gain a more comprehensive knowledge of a particular technology topic or explore specialized technology careers. This can be accomplished in a laboratory environment through a variety of instructional strategies. Instruction can be enriched through participation in Kentucky Technology Student Association challenges and/or Project Lead the Way-Gateway to Technology program materials. This optional/additional course may be 6 to 18 weeks in duration and may be taught at any grade level as appropriate.

**Content:** Engineering and Technology

**Population:** General

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## 210107 - Foundations of Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides the "foundation" for students to understand and apply technological concepts and processes that are the cornerstone for the high school technology program. Group and individual activities engage students in creating ideas, developing innovations, and engineering practical solutions. Technology content, resources, and laboratory activities encourage student applications of Kentucky Core Content. This course will focus on the three dimensions of technological literacy: 1) knowledge, 2) ways of thinking and acting, and 3) technological capabilities. The goal being that students develop the characteristics of a technologically literate citizen. The course will employ teaching/learning strategies that enable students to build their understanding of new ideas. It is designed to engage students in exploring and deepening their understanding of "big ideas" regarding technology. This can be accomplished through modular or other instructional strategies. Instruction should be enriched through participation in Kentucky Technology Student Association challenges. This course may be 18 or 36 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210108 - Technological Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course contributes to the development of each high school student's capability to understand how technology's development, control and use are based on design constraints and human wants and needs. The structure of the course challenges students to use technological design processes so that they can think, plan, design and create solutions to engineering and technological problems. Students are actively involved in the organized and integrated application of technological resources, engineering concepts, and scientific procedures. Students address the complexities of technology that stem from designing, developing, using and assessing technological systems. The goals of this course can be accomplished through various laboratory instructional strategies utilizing the seven contexts of technological literacy. Instruction should be enriched through the participation in Kentucky Technology Student Association challenges. This course may be 18 or 36 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210109 - Technological Issues and Impacts

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course addresses the positive and negative impacts of technology and the intended and unintended results of its implementation. Students investigate and analyze critical historical and emerging issues affecting the creation, development, use and control of contemporary and future technology. Laboratory activities will allow students to propose and implement alternative solutions. Students will measure, quantify, assess, and communicate the impacts of these proposals and the issues that accompany them. The goals of this course can be accomplished through various classroom and laboratory instructional strategies. Instruction should be enriched through participation in Kentucky Technology Student Association challenges. This course may be 18 or 36 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210110 - Engineering Design (Capstone)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Engineering scope, content, and professional practices are presented through practical applications in this capstone course. Students in engineering teams apply technology and Kentucky Core Content and skills to solve engineering design problems and create innovative designs. Students research, develop, test and analyze engineering designs using criteria such as design effectiveness, public safety, human factors and ethics. Instruction should be enriched through participation in Kentucky Technology Student Association challenges. This course may be 18-36 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210111 - Special Problems in Technology

**Grade Level:** 9 - 12

**Credits:** 1-4

**Description:** This independent-study course is designed to allow a high school student to study in-depth a technology topic or issue. The experience will enable the student to gain a more comprehensive knowledge of a particular technological context. A variety of instructional strategies using multiple resources, specialized laboratories, and collaboration with mentoring experts should be encouraged. Independent studies and/or internships could be utilized. Instruction should be enhanced through participation in Kentucky Technology Student Association challenges. This course may be 18 to 36 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210112 - Special Topics, Technology Education

**Grade Level:** 9 - 12

**Credits:** 1-4

**Description:** Special Technology Topics allows the teacher to develop a course for in-depth exploration of technological topics. This is a laboratory-based course designed to study a technological system or topic, and/or a recent technological advancement. This study should include how this advancement affects society and/or the environment. A culminating project integrating one or more of the seven contexts of technological literacy and the Kentucky Core Content is encouraged. It should include research, design, construction, analysis, writing, and presenting. Instruction should be enriched through participation in Kentucky Technology Student Association. This course may be 18 to 36 weeks in duration.

**Content:** Engineering and Technology

**Population:** General



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## 210117 - Advanced Design Applications

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course consists of the first four units of the ProBase curriculum. These units are Manufacturing, Energy and Power, Construction and Transportation. The Manufacturing unit examines the advance that maintain manufacturing efficiency, how human consumption affects manufacturing, how manufacturing affects the standard of living of various peoples, and how processing and changing raw materials can produce more desirable products. The Construction unit examines a number of the factors influencing the design and construction of permanent and semi-permanent structures. The practice related to construction maintenance, alterations, and renovation, and the functions of the primary systems installed in those structures. The Energy and Power unit explores the relationship between energy and power system impact cultures, societies and the environment. It also offers an examination of how energy and power systems can be made more efficient and how they may be utilized in problem solving. The Transportation unit examines the complex networks of interconnected subsystems that each transportation system comprises and the roles of these components in the overall functional process of the system. It also analyzes the improvements and the impacts of transportation technologies on the environment, society, and culture. Each of the four units is approximately 9 weeks in length. If the course is scheduled for 18 weeks, only 2 units can be completed. Completion of all four units requires a 36 week course.

**Content:** Engineering and Technology

**Population:** General

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## 210118 - Advanced Technological Applications

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course consists of the first four units of the ProBase curriculum. These units are: Information Technology, Agriculture and Bio-Related Technologies, Medical and Entertainment/Recreation Technology. The Information Technologies unit examines how technology facilitates the gathering, manipulation, storage and transmission of data and how this data can be used to create useful products. It also provides students with opportunities for developing communication systems that can solve technological problems. The Agriculture and Biorelated Technologies unit explores how agriculture technologies provide increased crop yields and allow adaptation to changing and harsh environments, enabling the growth of plant and animals for various uses. It also offers an analysis of the various uses of biotechnology and the ethical considerations of those uses. The Medical Technologies unit provides and analysis of how medical technologies are used to increase the quality and length of human life, and require public debate. Students will also examine tools and devices used to repair and replace organs, prevent disease and rehabilitate the human body. The Entertainment/Recreation unit provides a study of technological entertainment and recreation systems, with an examination of the differences between these technologies, of how their use enhances human leisure-time performance and of the social, cultural and environmental implications of their usage. Each of the four units is approximately 9 weeks in length. If the course is scheduled for 18 weeks, only 2 units can be completed. Completion of all four units requires a 36 week course.

**Content:** Engineering and Technology

**Population:** General

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## 210119 - Exploration of Power Energy and Transportation Technology

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course and/or modules allows for exploration in the many phases of Power Energy and Transportation through hands-on activities and/or modules. This program of study facilitates STEM principles to be applied in real world situations. These units or modules make up areas of the basic core technology such as but not limited to, Aviation and Aerospace, Transportation Systems, Robotics Pneumatic/Hydraulic, Power and Energy, Mechanical, Electrical/Electronics and Research.

**Content:** Engineering and Technology

**Population:** General

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## 210120 - Exploration of Manufacturing Technology

**Grade Level:** 6 - 8

**Credits:**

**Description:** An exploratory course and/or modules designed to investigate the types of activities performed in the manufacturing industry and through laboratory experiences students explore the skills and technologies of these industries. Content includes the application of technology; the design of products and services; emerging and innovative technologies; safety and maintenance of technology; marketing; technology-related; and career explorations. Activities may include computer aided design mechanical drafting, manufacturing parts, CNC programming, computer control, and robotics while tools and machines, and planning manufacturing projects.

**Content:** Engineering and Technology

**Population:** General

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## 210121 - Exploration of Construction Technology

**Grade Level:** 6 - 8

**Credits:**

**Description:** An exploratory course and/or modules designed to investigate the types of activities performed in the construction industry and through laboratory experiences students explore the skills and technologies of this industry. Content includes the application of technology; the design of products and services; emerging and innovative technologies; safety and maintenance of technology; marketing; and technology-related career explorations. Activities may include computer aided design, mechanical drafting, building models of buildings, specific projects, using construction tools and machines, and designing and building simple structures.

**Content:** Engineering and Technology

**Population:** General

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## 210122 - Exploration of Computer and Graphic Communication Technology

**Grade Level:** 6 - 8

**Credits:**

**Description:** An exploratory course and/or modules designed to provide students the skills and knowledge that are performed in the computer and communication industries. The types of activities may include but not limited to developing images, photography, desktop publishing, computer aided design, mechanical drafting, and printing, computer animation, sublimation, screen printing, bindery, audio/video production, and file management through laboratory experiences

**Content:** Engineering and Technology

**Population:** General

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## 210127 - Exploring Technology, Grades 6-8

**Grade Level:** 6 - 8

**Credits:**

**Description:** Students develop and understanding of the progression and scope of technology through exploratory experiences. In group and individual activates, student experience ways in which technological knowledge and processes contribute to effective design and solutions criteria, constraints, and processes affect designs. Brainstorming, visualizing, modeling, constructing, testing, and refining designs provide first hand opportunities for students to understand the uses and impacts of innovations. Students develop skills in communications design information and reporting results. Instructional design may utilize modular or other instructional strategies. Participation in Kentucky Technology Student Association will greatly enhance instruction. This course may be 6 to 18 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210128 - Exploring Technology, Grade 9

**Grade Level:** 9 - 9

**Credits:** 1/2

**Description:** Students develop an understanding of the progression and scope of technology through exploratory experiences. In group and individual activates, student experience ways in which technological knowledge and processes contribute to effective design and solutions to technological problems. Students participate in design activities to understand how criteria, constraints, and processes affect designs. Brainstorming, visualizing, modeling, constructing, testing, and refining designs provide first hand opportunities for students to understand the uses and impacts of innovations. Students develop skills in communications design information and reporting results. Instructional design may utilize modular or other instructional strategies. Participation in Kentucky Technology Student Association will greatly enhance instruction. This course may be 6 to 18 weeks in duration.

**Content:** Engineering and Technology

**Population:** General

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## 210133 - Graphic Communication Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is a fundamental course that offers a cross-disciplinary program designed for students interested in gaining knowledge and skills in various phases of graphic communication technology. This is a project based program with activities in, but not limited to, computer design, digital imaging, document layout, multimedia, web site development, digital printing, offset printing, screen and sublimation printing processes, bindery, packaging technology. Students apply creative problem solving while learning about technology and management practices related to the production and distribution of graphic media in its many forms.

**Content:** Engineering and Technology

**Population:** General

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## 210134 - Material and Process Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The purpose of this program is to provide students with a foundation of knowledge and technically oriented experiences in the study of the technology of materials and processes. This program focuses on transferable skills and stresses understanding and demonstration of the technological tools, machines, instruments, materials, processes and systems in business and industry. The content includes, but not limited to, a study of the pre-processing, processing and post processing of wood, metal, plastics,

composites, and other materials. The content and activities will also include the study of entrepreneurship, safety, and leadership skills through the participation in Kentucky Technology Student Association.

**Content:** Engineering and Technology

**Population:** General

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## 210135 - Production Technology

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Prerequisite: (Material & Process Technology) This course is to allow students the opportunity to develop a project from "vision to reality by working with teams to design, engineer, manufacture, construct, test, redesign, and produce a finished project. This course can serve as capstone course working with business and industry as part of their design, development, fabrication, and marketing using skills and knowledge from previous manufacturing courses.

**Content:** Engineering and Technology

**Population:** General

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## 210136 - Advanced Technology for Design & Productions

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** A project based course that introduces students to manufacturing's role in our society. In addition to concentrating on design and problem solving the course introduces students to several other concepts as well including an introduction to control system technology, automated manufacturing systems and robotics. This is a project based program of study that includes reverse engineering activities, manufacturing basics, manufacturing roles, DC motors and electricity, thermoforming and temperature control, tank volume control, and production monitoring systems. (Requires Agreement Between District & SREB )

**Content:** Advanced Manufacturing Technology

**Population:** General

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## 210137 - Systems of Advanced Technology

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** Prerequisite: (210136 Advanced Technology for Design & Productions) This course applies the learning from Intro to Advanced Manufacturing. This course involves projects related to the systems that are found in factories. Students learn about effective and energy efficient use of motors, drive systems, pumping systems, conveyors, piping and control systems. Students focus on properties of materials and materials testing creating documentation examining the properties and justifying selections based on the properties. Students learn that some products manufactured become the raw materials for more complex products. Students will explore projects such as automated tank control, design automated inspection systems, design software controlled mechatronic systems, material separation, and lean manufacturing. (Requires Agreement Between District & SREB )

**Content:** Advanced Manufacturing Technology

**Population:** General

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## 210138 - Mechanical and Technical Design

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** This is considered a basic course that will provide students with instructions in the characteristics and evolution of drafting technology, underlying principles of design and fundamental knowledge and skills in the use mechanical drawing, illustrations, various forms of mechanical drawings,

geometry and applied mathematics that apply to architectural and/or engineering design. Introduction to various forms of computer aided software to gain basic skills and knowledge.

**Content:** Engineering and Technology

**Population:** General

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## 210139 - Introduction to Aircraft Maintenance Technology I

**Grade Level:** 10 - 12

**Credits:** 1-3

**Description:** Prerequisite: (210226 & 210233) The purpose of this curriculum is to for students to develop basic knowledge and personal skills that can be applied to a broad range of career opportunities with emphases to aviation maintenance technology. Students will gain experience in electricity and electronics, metalworking, woodworking, plastics and composite materials through the use of tools, machines and materials that are basic to aviation industry. It will cover both hand and machine-tool operations, and supplies background knowledge on equipment and processes utilized in aviation industry and manufacturing. The program allows students to learn basic problem solving skills, instruction in mechanical drawing, blue print reading, engineering CAD, and the application of the engineering concepts and mathematics.

**Content:** Aerospace Engineering

**Population:** General

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## 210140 - Architectural Design & Civil Engineering II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prerequisite: (210223 Fund of Architectural and Civil Engineering) This course is for students who wish to broaden their basic skills in the field of residential architectural drafting and surveying. Covers procedures used in developing complete set of residential plans, history of surveying, mathematics, measurement and computations, and the proper use of basic drafting and surveying instruments, equipment and software. Students will develop projects in accordance to drafting and building code requirements. Projects will emphasize the importance of communication and organization as they participate in the roles of civil engineers, architects, land developers, surveyors, and/or general contractors in residential planning and construction.

**Content:** Engineering and Technology

**Population:** General

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## 210141 - Fundamentals of Building Construction Technologies

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Prerequisite: (210223 and 210140) Students explore architectural design foundations and increase understanding of working drawings, construction techniques, and codes regulating building design. They learn the design process and apply the elements and principles of design to architectural projects. Through producing models and illustrations of all aspects of a building, students create architectural design solutions using CADD (computer aided drafting and design). Students design and build scale or full-size structures and work with projects that help them understand the jobs of architects, carpenters, electricians, plumbers, surveyors, contractors, masons, design engineers, and a variety of other construction careers. They also explore aspects of the construction industry.

**Content:** Engineering and Technology

**Population:** General

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## 210142 - Power & Energy Equipment Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Power and Energy Equipment is used every day in many different ways. To become a more environmentally friendly society, students will have a basic understanding of the various types of energy equipment and how energy is obtained or generated. Everyone should know what energy sources are available that do not pollute the environment and how this energy can be converted into a useful power supply. This course provides students with the foundation in content and skills associated with various energy sources, and electrical power generation, working with AC/DC electrical circuits, and transfer of various energy forms to produce DC current. Laboratory-based activities is an integral part of the course that includes safe use and application of appropriate technology, scientific testing and observation equipment.

**Content:** Engineering and Technology

**Population:** General

# Engineering and Technology - Engineering (210200)

Career Major: Engineering is a four year sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering. Any course not found under this career major/sub code may be found in another career major/sub code with in this program area.

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## 210221 - Fundamentals of Engineering Design I

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** Introduction to Computer Aided Drafting and Engineering Design Principles. This course continues to apply the skills, concepts, and principles of engineering. Students explore various technological systems and engineering processes in related career fields. Topics include investigating technological system, design optimization, and problem solving. Students utilize CAD and physical and virtual modeling concepts to construct, test, collect, and report data.

**Content:** Engineering

**Population:** General

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## 210222 - Engineering Design II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A project based course that extends the learning experiences where students focus on mechanical, electrical, fluid and thermal systems allowing in depth exploration in selected disciplines of engineering areas such as manufacturing, power/energy/transportation, robotics, hydraulics, electricity/electronics, communications, construction systems, alternative energy and computer aided design and problem solving.

**Content:** Engineering

**Population:** General

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## 210223 - Fundamentals of Architectural and Civil Engineering

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is an introduction to residential and light commercial building construction and design. In this class, students will design a structure relevant to today's modern architecture and create models of their designs with various materials and tools. Students will experience and solve many problems in designing or building structures with regards to environment and community impact and limitations from town planning, urban design and landscape architecture to furniture and objects.

**Content:** Engineering

**Population:** General

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## 210224 - Principles of Engineering and Technology

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** The course provides a project based learning approach to understanding the fundamental principles and concepts of physics and associated mathematics. Students explore various careers and disciplines of engineering areas such as manufacturing, power/energy/transportation, robotics, hydraulics, electricity/electronics, communications, construction systems, alternative energy and computer aided design. Emphasis is placed on understanding mechanical, electrical, fluid, and thermal systems as they relate to work, force, rate, resistance, energy, and power.

**Content:** Engineering

**Population:** General

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## 210225 - Introduction to Manufacturing and Manufacturing Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is a comprehensive course designed for the study of general concepts and principles of Manufacturing and Manufacturing systems. This course provides for hands-on learning experience which enhances the understanding of various metallic and nonmetallic materials, processes, and products. Materials studied may include polymers, ceramics, woods, composites, and metal materials associated with manufacturing. Students will use basic tools, equipment and operations of manufacturing industries. Students have the opportunity to engage in product design, prototyping, computer-assisted manufacturing applications, CNC machines, robotics and production management.

**Content:** Engineering

**Population:** General

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## 210226 - Introduction to Aerospace

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** The course covers the exploration of aerospace including, flight/aeronautics, aircraft maintenance, aeronautical engineering, and space. Students will learn about the forces that affect controlled flight, investigate properties of lift, and explore flight through a flight simulator. Students will also learn about aerospace standard materials, aviation safety, aircraft and wing design, and elements of a space mission resource system.

**Content:** Aerospace Engineering

**Population:** General

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## 210229 - Fundamentals of Aeronautical Engineering

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The fundamental concepts, and approaches of aeronautical engineering, are highlighted through lectures on aeronautics, astronautics, and design. Active learning aerospace modules make use of information technology. Project based program where students will design, build and test projects such as lighter-than-air (LTA) vehicle or various wing designs. The connections between theory and practice are realized in the design exercises. Required design reviews precede the LTA race competition. The performance, weight, and principal characteristics of the LTA vehicles or wing designs are estimated and illustrated using physics, mathematics, and chemistry. Emphasis being on the application of this knowledge to aeronautical engineering and design through the use of computer aided software.

**Content:** Aerospace Engineering

**Population:** General

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## 210230 - Fundamentals of Mechatronics

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Electro-Mechanical Systems courses provide students with instruction and experience with mechanical devices, actuators, sensors, electronics, intelligent controllers and computers. Students gain an understanding of the principles of electricity and mechanics and their application to gears, including hydraulic/pneumatic equipment, cams, levers, circuits, and other devices used in the manufacturing process or within manufactured goods.

**Content:** Engineering

**Population:** General

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## 210231 - Introduction to Mining Engineering and Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces students to the careers and basic engineering principles of various forms of mining and systems. Students will learn understand the challenges of future technologies as it relates to safety and environmental impact. Student will be able to apply engineering designing process as part of modern strategic mine planning. Students will be able to identify the importance for mine regulations, safety, proper management, required training, certifications and health risks.

**Content:** Engineering

**Population:** General

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## 210232 - Basic Electricity & Energy Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** In this course students will gain skills and knowledge through classroom and lab activities in the areas of basic DC and AC circuits, circuit components, codes, testing, electromagnetism and inductance, capacitance, power supplies, power generation and distribution, amplification, digital circuits, and computer fundamentals. Students will develop a basic understanding of the various types of energy and how energy is obtained. Everyone should know what energy sources are available that do not pollute the environment and how this energy can be converted into a useful power supply. Students will learn the safe use of the tools, test instruments, equipment and supplies used in this course plus information on career opportunities in this field. Hands-on and problem solving activities will expose students to areas of electron theory, Ohm's Law, insulators, conductors, electronic components, oscillators, and electronic fabrication. Instruction should be enhanced through participation in Kentucky Technology Student Association challenges.

**Content:** Engineering

**Population:** General

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## 210233 - Fundamentals of Aviation Science I

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** The course covers the history of fundamentals of aerospace including, the development of the balloon (lighter than air vehicles, gliders, rockets, and heavier than air flight vehicles. Introduces students to the basic science of aerodynamics: including the development of aircraft from the Wright Brothers to the present day while exposing students to the various career opportunities in aerospace.

**Content:** Aerospace Engineering

**Population:** General

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## 210234 - Aviation Science II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prerequisite: (Fundamental of Aviation Science I) This course prepares students for flight training and aircraft operations. Students will gain knowledge and skills in airport systems, air traffic control procedures, aviation weather, air navigation, radio communication procedures, and Federal Aviation Regulations (FAR's). Learning activities may include, but not limited, to operation of flight simulators and/or aircraft that will prepare them for the FAA Private Pilot Written Examination. This course covers the history of aviation law, federal regulation of air transportation and the role of state and federal government in aviation law, including functions of the Federal Aviation Administration. Students will become familiar with aircraft power plants, principles of flight, aircraft systems/instruments, and science of weather.

**Content:** Aerospace Engineering

**Population:** General

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## 210235 - Introduction to Space System Engineering I

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** The course introduces students to satellites and space systems: orbital mechanics; the space environment; satellite application; spacecraft design consideration; the roles universities, industry and government play in space exploration, and future technologies of spacecrafts and satellites.

**Content:** Aerospace Engineering

**Population:** General

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## 210236 - Space System Engineering II

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Prerequisite: (Intro to Space Systems Engineering I) The course is a continuation to the study of Satellites and Space systems I, including satellite subsystems (telecommunication systems, power systems, attitude determination and control, and payloads), spacecraft structures, sensors, thermal considerations, manufacturing processes, pre-flight, launch integration, and ground segment.

**Content:** Aerospace Engineering

**Population:** General

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## 210237 - Commercial Aviation Science

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** This course discusses the Federal Aviation Regulations covering the privileges, limitations, and operations of a commercial pilot, and the operations for which an air taxi/commercial operator, agricultural aircraft operator, and external load operator certificate, waiver, or exemption is required. The course also discusses the safe and efficient operation of airplanes, including inspection and certification requirements, operating limitations, high altitude operations and physiological considerations, loading computations, the significance of the use of airplane performance speeds, the computations involved in runway and obstacle clearance and cross wind component considerations, and cruise control.

**Content:** Aerospace Engineering

**Population:** General

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## 210238 - Foundations of Robotics

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** This course provides students with the foundation in content and skills associated with robotics and automation, including artificial intelligence, electronics, physics, and principles of engineering.

**Content:** Engineering

**Population:** General

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## 210239 - Robotics Design Essentials and Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Prerequisite: (Foundations of Robotics) This course provides students with content and skills essential to the design and operation of robotic systems. Students activities will include artificial intelligence specialized sensors, electronic applications, engineering technologies, environmental physics, manufacturing, topographical considerations, programming, motions physics, electric motors, communications, simulations, simulation and modeling, and critical thinking skills.

**Content:** Engineering

**Population:** General

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## 210240 - Robotic Application Capstone

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Prerequisite: (Foundations of Robotics and Robotic Design) This course provides students with extended and skills essential to the design and operation of autonomous robotic systems in the context of a capstone project. Students will design and build an autonomous robot to perform pre-designed tasks.

**Content:** Engineering

**Population:** General

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## 210242 - Introduction to Alternative Energy I

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** This course provides students with the foundation in content and skills associated with various energy sources, and electrical power generation, transmission, and distribution. Students will develop competencies in the area of energy history and the global impact of renewable and non-renewable resources; career opportunities; environmental principles, working with AC/DC electrical circuits, and transfer of various energy forms to produce DC current. Laboratory-based activities are an integral part of the course that includes safe use and application of appropriate technology, scientific testing and observation equipment.

**Content:** Engineering

**Population:** General

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## 210243 - Alternative Energy II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Prerequisite: (Intro to Alternative Energy I) This course is a continuation of Energy I concepts, skills and knowledge to study further in detail specific energy sources that may relate to renewable and non-renewable resources in our local and state. This course is designed to develop competencies in the areas of energy history and the global impact of renewable and non-renewable resources; career opportunities; scientific and research concepts; biological and physical science principles; environmental principles; and solar energy safety. Laboratory-based activities are an integral part of the course that includes safe use and application of appropriate technology, scientific testing and observation equipment.

**Content:** Engineering

**Population:** General

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## 210244 - Global Energy Issues

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course critically examines issues associated with the technical, economic, societal, environmental, and geopolitical aspects of energy and sustainability. Students will develop competencies in the area of energy history and the global impact of renewable and non-renewable resources; career opportunities; environmental principles. The course is taught through lectures, discussions, hands on activities, field trips and invited speakers.

**Content:** Engineering

**Population:** General

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## 210290 - Special Topics, Engineering (non-PLTW)

**Grade Level:** 9 - 12

**Credits:** 1-4

**Description:** Special Technology topics allows the teacher to develop a course for in-depth exploration of technological topics. This is a laboratory-based course designed to study a technological system or topic, and/or a recent technological advancement. This study should include how this advancement affects society and/or the environment. A culminating project integrating one or more of the seven contexts of technological literacy and the Kentucky Core Content is encouraged. It should include research, design, construction, analysis, writing, and presenting. Instruction should be enriched through participation in Kentucky technology Student Association. This course may be 18 to 36 weeks in duration.

**Content:** Engineering

**Population:** General

# Engineering and Technology - Career Major Electives (210300)

Courses not falling into one of the other career majors/sub codes

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## 210316 - Leadership Dynamics, Engineering and Technology

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** This course is designed to assist students with developing skills needed to be successful leaders and responsible members of society. The student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

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## 210330 - Engineering and Technology Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Engineering

**Population:** General

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## 210331 - Engineering and Technology Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Engineering

**Population:** General

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## 210341 - Foundations of Energy

**Grade Level:** 9 - 11

**Credits:** 1

**Description:** Foundations of Energy is a course in career and technical education for secondary students. The course provides an overview of renewable and nonrenewable energy resources reflecting how energy impacts the environment and the economy from regional, state, national and global perspectives. Extensive hands-on laboratory activities are vital components of the curriculum. This course can provide a basis for students working toward various career pathways in energy such as Engineering/Technology, Construction and Manufacturing Technology. Instruction should be enhanced through participation in Kentucky Technology Student Association challenges. This course may be 18 to 36 weeks in duration.

**Content:** Engineering

**Population:** General

# Engineering and Technology - Engineering (Project Lead the Way) (219900)

Career Major: Engineering is a four year sequence of courses which, when combined with traditional mathematics and science courses in high school, introduces students to the scope, rigor and discipline of engineering. Any course not found under this career major/sub code may be found in another career major/sub code with in this program area.

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## 219901 - Introduction to Engineering Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students explore technology systems and engineering processes to find out how math, science, and technology help people.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219902 - Principles of Engineering

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Using computer modeling software, students learn the design process. They solve design problems as they develop, create, and analyze product models.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219903 - Digital Electronics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students use computer simulations to learn about the logic of electronics as they design, test, and actually construct circuits and devices.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219904 - Computer Integrated Manufacturing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students learn concepts of robotics and automated manufacturing by creating three-dimensional designs with modeling software and producing models of their designs.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219905 - Civil Engineering and Architecture

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Teams of students collaborate on the development of community -based building projects and conceptual design for project presentations.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219906 - Engineering Design and Development (Capstone)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Teams of students, guided by community mentors, work together to research, design, and construct solutions to engineering problems.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219907 - Aerospace Engineering

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course will introduce students to aerospace information systems, star sailing or astronautics rocketry, propulsion, and the physics of space science, space life sciences (BioSpace) that includes looking at habitat and crew systems with life support, and the biology of space science, principles of aeronautics, structures and materials, and systems engineering.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219908 - Biotechnical Engineering

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course includes experiences from the diverse fields of Bio-technology, Bio-engineering, Bio-medical engineering, and Bio-molecular engineering. Lessons engage students in engineering design problems that can be accomplished in a high school setting related to biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interface, bioprocess engineering, forensics, and bio-ethics.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219909 - Design and Modeling

**Grade Level:** 6 - 8

**Credits:**

**Description:** In this Gateway To Technology course uses solid modeling (a very sophisticated mathematical technique for representing solid objects) to introduce students to the design process. Utilizing this design approach, students understand how solid modeling has influenced their lives. Students also learn sketching techniques, and use descriptive geometry as a component of design, measurement, and computer modeling. Using design briefs or abstracts, students create models and documentation to solve problems.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219910 - Automation & Robotics

**Grade Level:** 6 - 8

**Credits:**

**Description:** In this Gateway To Technology course students will trace the history and development of automation and robotics. They learn about structures, energy transfer, machine automation, and computer control systems. Students acquire knowledge and skills in engineering problem solving and explore requirements for careers in engineering.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219911 - Science & Technology

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course traces how science has affected technology throughout history. Students learn about the mechanics of motion, the conversion of energy, and the use of science to improve communication.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219912 - Flight and Space

**Grade Level:** 6 - 8

**Credits:**

**Description:** In this Gateway To Technology course students learn about the history of flight through hands-on activities, research, and a presentation in the form of an infomercial. In the Aeronautics unit students learn the science and art of flying through the air. Students will experience activities related to Newton's laws, Bernoulli's principle, wind tunnels, airfoils, and propulsion systems. Students will complete activities while learning about the history and principles of space travel. They will study the development of rocketry and the space program.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219913 - Magic of Electrons

**Grade Level:** 6 - 8

**Credits:**

**Description:** In this course students explore the science of electricity, the movement of atoms, circuit design, and sensing devices. Students acquire knowledge and skills in basic circuitry design and explore the impact of electricity on our lives.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219914 - Energy & The Environment

**Grade Level:** 6 - 8

**Credits:**

**Description:** In this Gateway To Technology course students investigate the impact of energy on our lives and the environment. They design and model alternative energy sources and participates in an energy expo to demonstrate energy concepts and innovative ideas. Students evaluate ways to reduce energy consumption through energy efficiency and sustainability.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219915 - Green Architecture

**Grade Level:** 6 - 8

**Credits:**

**Description:** In this course the concept of “being green” in a world of reduced resources and environmental challenges will be experienced by the next generation of designers and builders. Students are introduced to architectural plans, construction styles, alternative materials and processes, dimensioning, measuring and architectural sustainability. Students use a 3D architectural software program to create an environmentally friendly home using shipping containers.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219916 - Medical Detective

**Grade Level:** 6 - 8

**Credits:**

**Description:** Medical Detectives (MD) explores the biomedical sciences through hands-on projects and labs that require students to solve a variety of medical mysteries. Students investigate medical careers, vital signs, diagnosis and treatment of diseases, as well as human body systems such as the nervous system. Genetic testing for hereditary diseases and DNA crime scene analysis put the students in the place of real life medical detectives.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

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## 219917 - Special Topics, Engineering (PLTW)

**Grade Level:** 9 - 12

**Credits:** 1-4

**Description:** Special Technology topics allows the teacher to develop a course for in-depth exploration of technological topics. This is a laboratory-based course designed to study a technological system or topic, and/or a recent technological advancement. This study should include how this advancement affects society and/or the environment. A culminating project integrating one or more of the seven contexts of technological literacy and the Kentucky Core Content is encouraged. It should include research, design, construction, analysis, writing, and presenting. Instruction should be enriched through participation in Kentucky technology Student Association. This course may be 18 to 36 weeks in duration.

NOTE TO SCHOOL - this course requires a District agreement with PLTW. You MUST have a current agreement with PLTW to offer this course.

**Content:** Pre-Engineering

**Population:** General

# **English/ Language Arts**

## **(230000)**

# English/ Language Arts - General (230100)

A summary of groups of instructional programs that incorporate all language arts strands of Kentucky Core Academic Standards. A group of instructional programs that generally describes the skills and techniques essential to learning the English language.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

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## 230101 - English 6

**Grade Level:** 6 - 6

**Credits:**

**Description:** Middle level English/Language Arts is designed to present a wide range of reading experiences with print and non-print text for literary, informational, persuasive, and practical purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies, as well as the writing process and criteria for effective writing, to write in a variety of forms and for multiple audiences and purposes. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes, situations, and audiences. The integration of inquiry skills and technology with the other strands allows students to continue to discover and communicate ideas and information. Course adheres to Kentucky Core Academic Standards requirements

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** English Language Arts

**Population:** General

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## 230103 - English 7

**Grade Level:** 7 - 7

**Credits:**

**Description:** Middle level English/Language Arts is designed to present a wide range of reading experiences with print and non-print text for literary, informational, persuasive, and practical purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies, as well as the writing process and criteria for effective writing, to write in a variety of forms and for multiple audiences and purposes. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes, situations, and audiences. The integration of inquiry skills and technology with the other strands allows students to continue to discover and communicate ideas and information. Course adheres to Kentucky Core Academic Standards requirements.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** English Language Arts

**Population:** General

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## 230105 - English 8

**Grade Level:** 8 - 8

**Credits:**

**Description:** Middle level English/Language Arts is designed to present a wide range of reading experiences with print and non-print text for literary, informational, persuasive, and practical purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies, as well as the writing process and criteria for effective writing, to write in a variety of forms and for multiple audiences and purposes. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes, situations, and audiences. The integration of inquiry skills and technology with the other strands allows students to continue to discover and communicate ideas and information. Course adheres to Kentucky Core Academic Standards requirements.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** English Language Arts

**Population:** General

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## 230107 - English I

**Grade Level:** 9 - 9

**Credits:** 1 English credit

**Description:** \*Course Required for Graduation. The courses are designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The courses also require students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas. Course adheres to Kentucky Core Academic Standards requirements.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English I

**Population:** General

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## 230110 - English 2

**Grade Level:** 10 - 10

**Credits:** 1 English credit

**Description:** \*Course Required for Graduation. The courses are designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The courses also require students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas. Course adheres to Kentucky Core Academic Standards requirements. **Students taking this course are required to take the QualityCore End of Course (EOC) exam for English 2.**

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English II

**Population:** General

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## 230113 - English 3

**Grade Level:** 11 - 11

**Credits:** 1 English credit

**Description:** \*Course Required for Graduation. The courses are designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The courses also require students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas. Course adheres to Kentucky Core Academic Standards requirements.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English III

**Population:** General

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## 230116 - English 4

**Grade Level:** 12 - 12

**Credits:** 1 English credit

**Description:** \*Course Required for Graduation. The courses are designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The courses also require students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas. Course adheres to Kentucky Core Academic Standards

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English IV

**Population:** General

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## 230118 - World Literature

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: reading and critiquing; world classical literature

**Content:** English Language Arts

**Population:** General

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## 230125 - Bible as Literature

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: study of the Old Testament; New Testament; Heroes; prophecies; poetry

**Content:** English Language Arts

**Population:** General

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## 230139 - British Literature

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: focused on literature by British writers

**Content:** English Language Arts

**Population:** General

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## 230140 - Literature of a Genre

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: focused on a specific genre

**Content:** English Language Arts

**Population:** General

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## 230141 - Literature of a Period

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: focused on a period of literature

**Content:** English Language Arts

**Population:** General

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## 230151 - Seminar on an Author

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: one author read, critiqued, evaluated

**Content:** English Language Arts

**Population:** General

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## 230153 - Reading, Independent Study

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: studying self-selected readings

**Content:** Reading

**Population:** General

---

## 230154 - Research Technique

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: Research paper format; organization and presentation of researched material

**Content:** English Language Arts

**Population:** General

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## 230161 - Pre-IB English 1 (grade 9)

**Grade Level:** 9 - 9

**Credits:** 1 English credit

**Description:** English I course to prepare students for International Baccalaureate (fulfills English I requirement) Course adheres to Kentucky Core Academic Standards requirements.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English I

**Population:** General

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## 230162 - Pre-IB English 2 (grade 10)

**Grade Level:** 10 - 10

**Credits:** 1 English credit

**Description:** English II course to prepare students for International Baccalaureate (fulfills English II requirement) Course adheres to Kentucky Core Academic Standards requirements. **Students taking this course are required to take the QualityCore End of Course (EOC) exam for English 2.**

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English II

**Population:** General

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## 230163 - Pre-IB English 3 (grade 11)

**Grade Level:** 11 - 11

**Credits:** 1 English credit

**Description:** English III course to prepare students for International Baccalaureate (fulfills English III requirement) Course adheres to Kentucky Core Academic Standards requirements.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English III

**Population:** General

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## 230164 - IB English 4 (grade 11 or 12)

**Grade Level:** 11 - 12

**Credits:** 1 English credit

**Description:** English IV course - Adheres to Kentucky Core Academic Standards requirements and meets IB guidelines. [http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English IV

**Population:** General

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## 230165 - IB English 5 (grade 12)

**Grade Level:** 12 - 12

**Credits:** 1 English credit

**Description:** English IV course - Adheres to Kentucky Core Academic Standards requirements and meets IB guidelines. [http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** English IV

**Population:** General

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## 230166 - AP Language and Composition

**Grade Level:** 11 - 12

**Credits:** 1 English credit

**Description:** English III or English IV course - Adheres to Kentucky Core Academic Standards requirements and meets AP guidelines. \*Course also available through KVHS. \*\*See AP Course Description from College Board.

**Content:** AP English

**Population:** General

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## 230167 - AP Literature and Composition

**Grade Level:** 11 - 12

**Credits:** 1 English credit

**Description:** English IV course - Adheres to Kentucky Core Academic Standards requirements and meets AP guidelines. \*Course also available through KVHS. \*\*See AP Course Description from College Board.

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_ELA.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_ELA.pdf)

**Content:** AP English

**Population:** General

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## 230169 - Introductory College English

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school and college credit that is primarily a writing course reviewing sentence basics and methods of paragraph development; emphasizing style, organization, coherence, and persuasion in written discourse; extensive practice in composition for different purposes and audiences; study and practice to improve reading. In order for this course to count as English 4 at the high school level, the English 4 standards must be taught.

**Content:** English Language Arts

**Population:** General

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## 230170 - AP Seminar

**Grade Level:** 9 - 12

**Credits:**

**Description:** The AP | Cambridge Interdisciplinary Investigations and Critical Reasoning Seminar, taken in 11th grade, focuses on developing inquiry skills “through writing, researching and team projects” by exploring specific topics of global relevance. Topics are selected by individual schools and are drawn from a list that includes such subjects as: alternatives to oil, endangered cultures, global climate change, integration and multiculturalism, medical ethics and priorities. Students in the seminar course are assessed through a written exam, a presentation and a team project.

**Content:** English Language Arts

**Population:** General

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## 230171 - AP Research Project

**Grade Level:** 10 - 12

**Credits:**

**Description:** The AP | Cambridge Capstone Research Project, taken in the 12th grade, is an independent mentored project culminating in a 4,500- to 5,000-word academic paper. It enables students to develop practical skills in research methodology and in managing a sustained piece of academic work. Students are

evaluated on their ability to design, plan and manage a research project; collect and analyze information; evaluate and make reasoned judgments; and communicate their findings and conclusions.

**Content:** English Language Arts

**Population:** General

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## 230190 - Multi-Subject/Multi-Grade English Language Arts

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is to be used for resource special education and alternative setting classrooms where students are receiving instruction in multiple content areas within the English Language Arts core. The individualized content for each specific course taught under this umbrella course must meet the standards listed in this document. A highly qualified teacher is required. This course number should not be utilized when instruction is being provided related to one specific course.

**Students taking courses where an End Of Course (EOC) exam is required must be enrolled in a course with the appropriate EOC related state course code. This code cannot be used for EOC exam required content areas.**

Certification requirements are dependent upon the population being served.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** English Language Arts

**Population:** Varies

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## 230195 - College & Career Readiness English Language Arts

**Grade Level:** 10 - 12

**Credits:** 1 English elective

**Description:** This course is for students who need additional time and support or for students who may not have attained the benchmark ACT score in English/Language Arts. This course could serve as an English/Language Arts elective for high school graduation, but not as one of the 4 required English Language Arts courses (class of 2012 and beyond).

**Content:** English Language Arts

**Population:** General

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## 230196 - EXPLORE ELA for College & Career Readiness

**Grade Level:** 7 - 10

**Credits:** 1

**Description:** This course is for students who need additional time and support or for students who may not have attained the benchmark EXPLORE score in English/Language Arts. This course could serve as an English/Language Arts elective for high school graduation for high school students, but not as one of the 4 required English Language Arts courses.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** English Language Arts

**Population:** General

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## 230199 - Independent Study - English, Language Arts

**Grade Level:** 9 - 12

**Credits:** 1 English Credit

**Description:** Independent Study - provides students an opportunity for in-depth study on a specific topic. Students must apply for and be accepted in independent study during the semester before scheduling the course.

**Content:** English Language Arts

**Population:** General

# English/ Language Arts - Composition (230400)

A group of instructional programs that describe the principles and techniques of selecting, combining, arranging, and developing ideas, and expressing them in appropriate written form.

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## 230401 - Composition, Expository

**Grade Level:** 9 - 12

**Credits:**

**Description:** Special Topics: basic composition structure; models; skill improvement

**Content:** Composition

**Population:** General

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## 230402 - Writing Laboratory

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: intensive practice; writing skills; laboratory setting

**Content:** Writing

**Population:** General

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## 230403 - Writing About Literature

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: writing about plays, short stories, novels

**Content:** Writing

**Population:** General

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## 230404 - College Introductory Written Communication

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for Written Communication in which the student would be able to write clear and effective prose in several forms using conventions for appropriate audiences; list and speak competently; analyze and evaluate primary and secondary sources; identify, analyze and evaluate points of view; and plan organize, revise and edit for clarity of ideas.

**Content:** Writing

**Population:** General

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## 230499 - Composition, Other

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics:

**Content:** Composition

**Population:** General

# English/ Language Arts - Creative Writing (230500)

A group of instructional programs that describe the techniques of composition of such forms of literature as the short story, verse, drama, and others that involve some degree of spontaneity and exercise of the imagination on the part of the writer.

---

## 230511 - Creative Writing 10

**Grade Level:** 10 - 10

**Credits:** 1 English elective

**Description:** Special Topics: short story; poetry; one-act play; personal expressive

**Content:** Writing

**Population:** General

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## 230512 - Creative Writing 11

**Grade Level:** 11 - 11

**Credits:** 1 English elective

**Description:** Special Topics: short story; poetry; one-act play; personal expressive

**Content:** Writing

**Population:** General

---

## 230513 - Creative Writing 12

**Grade Level:** 12 - 12

**Credits:** 1 English elective

**Description:** Special Topics: short story; poetry; one-act play; personal expressive

**Content:** Writing

**Population:** General

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## 230599 - Creative Writing, Other

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics:

**Content:** Writing

**Population:** General



# English/ Language Arts - Rhetoric (230900)

A group of instructional programs that describe the effective use of language, including an examination of the patterned use of language for its effects.

---

## 230999 - Rhetoric, Other

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics

**Content:** Speech/Oral Communication (English)

**Population:** General

# English/ Language Arts - Speech, Debate, and Forensics (231000)

A group of instructional programs that describe strategies to improve competence in speaking and listening and the application of forms of argument to test ideas or reach decisions.

---

## 231011 - Public Speaking

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: extemporaneous, demonstrative, persuasive, informative oral communication; videotape; speech writing and delivery

**Content:** Speech/Oral Communication (English)

**Population:** General

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## 231021 - Speech 1

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: oral reading; children's literature; delivering, selecting, organizing speeches; persuasion; poise and verbal skills

**Content:** Speech/Oral Communication (English)

**Population:** General

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## 231022 - Speech 2

**Grade Level:** 10 - 12

**Credits:** 1 English elective

**Description:** Special Topics: debate techniques; argumentation; problem solving

**Content:** Speech/Oral Communication (English)

**Population:** General

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## 231023 - Speech 3

**Grade Level:** 11 - 12

**Credits:** 1 English elective

**Description:** Special Topics: speech practices and techniques

**Content:** Speech/Oral Communication (English)

**Population:** General

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## 231024 - College Introductory Oral Communication

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for Oral Communication in which the student would be able to listen and speak competently in a variety of communication contexts, which may include public, interpersonal, and small group settings; analyze and evaluate primary and secondary sources; identify, analyze and evaluate points of view; and plan organize, revise and edit for clarity of ideas.

**Content:** Speech/Oral Communication (English)

**Population:** General

---

## 231099 - Speech, Debate, and Forensics, Other

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics:

**Content:** Debate

**Population:** General

# English/ Language Arts - Technical and Business Writing (231100)

A group of instructional programs that describe the theory, methods, and skill that is needed for writing scientific, technical, and business papers and monographs.

---

## 231111 - Technical English

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: methods and skills for writing scientific, technical and business papers

**Content:** English Language Arts

**Population:** General

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## 231199 - Technical and Business Writing, Other

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics:

**Content:** English Language Arts

**Population:** General

# English/ Language Arts - Language Arts, Reading (231200)

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## 231205 - Middle School Reading

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Middle School Reading is designed to present a wide range of reading experiences with print and non-print text that have literary and information purposes. Informational texts include expository, persuasive, and procedural texts and documents. Students use reading strategies before, during and after reading to aid in comprehension of texts. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes, situations, and audiences. The integration of inquiry and technology allows students to continue to discover and communicate ideas and information. In isolation, this supplemental course will not fulfill the middle school language arts requirements defined in the Kentucky Core Academic Standards.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231211 - Reading Development 1

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: instruction for students with reading difficulties; focuses on skill acquisition and reading technique; demonstrates word attack skills and reading comprehension strategies.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231212 - Reading Development 2

**Grade Level:** 10 - 12

**Credits:** 1 English elective

**Description:** Special Topics: instruction for students with reading difficulties; focuses on skill acquisition and reading technique; demonstrates word attack skills and reading comprehension strategies.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231213 - Reading Development 3

**Grade Level:** 11 - 12

**Credits:** 1 English elective

**Description:** Special Topics: continued skill building; emphasis on individual deficiencies; functional literacy

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231214 - Reading Development 4

**Grade Level:** 12 - 12

**Credits:** 1 English elective

**Description:** Special Topics: competency test reading; career reading skills.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231216 - Advanced Reading and Study Skills

**Grade Level:** 11 - 12

**Credits:** 1 English elective

**Description:** Special Topics: reading under contract; advanced reading skill development

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231290 - Literacy Ready: Ready for reading in all disciplines

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course, developed by the Southern Regional Educational Board, teaches students strategies for reading and truly understanding specific kinds of complex texts in all subjects – reading a biology textbook, for example, is different than reading short stories or history research articles. Students learn to develop and defend ideas from the text and write about them in different college-level formats. This course was developed to address the college readiness needs of students within 3 points of the national ACT benchmarks and is intended for students who were likely planning to attend college anyway, but recognize a need to raise their ACT scores for college placement purposes.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231295 - Reading for College Success

**Grade Level:** 10 - 12

**Credits:** 1 English elective

**Description:** This course is for students who need additional time and support or for students who may not have attained the benchmark ACT score in Reading, which includes Social Sciences, Natural Sciences, Humanities, and Literature texts. This course could serve as an English/Language Arts elective for high school graduation, but not as one of the 4 required English Language Arts courses (class of 2012 and beyond).

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231296 - EXPLORE Reading for College & Career Readiness

**Grade Level:** 7 - 10

**Credits:** 1

**Description:** This course is for students who need additional time and support or for students who may not have attained the benchmark EXPLORE score in Reading, which includes Social Sciences, Natural Sciences, Humanities, and Literature texts. This course could serve as an English/Language Arts elective for high school graduation for high school students, but not as one of the 4 required English Language Arts courses.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 231299 - Reading Intervention

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course description is reserved for targeted intervention or remediation courses in reading at the middle or high school level.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

# English/ Language Arts - Communications (239100)

A summary of groups of instructional programs that describe the creation, transmission, and evaluation of messages.

---

## 239101 - Mass Media

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: media awareness; communication theory; critical skill development; major media components; media history; communications psychology

**Content:** Broadcast Journalism

**Population:** General

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## 239111 - Journalism 1

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: newspaper study; newspaper production; news information gathering; proofreading; journalistic writing

**Content:** Journalism

**Population:** General

---

## 239112 - Journalism 2

**Grade Level:** 10 - 12

**Credits:** 1 English elective

**Description:** Special Topics: advanced newspaper work; laboratory course; layout; in-depth editing; publishing finance

**Content:** Journalism

**Population:** General

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## 239113 - Journalism 3

**Grade Level:** 11 - 12

**Credits:** 1 English elective

**Description:** Special Topics: advanced journalism

**Content:** Journalism

**Population:** General

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## 239131 - Literary Magazine

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: advanced writing techniques; literary magazine publishing

**Content:** Writing

**Population:** General

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## 239141 - Yearbook Production 1

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: producing a publication; format; layout; photographs; yearbook design

**Content:** Yearbook

**Population:** General

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## 239142 - Yearbook Production 2

**Grade Level:** 10 - 12

**Credits:** 1 English elective

**Description:** Special Topics: senior staff positions; financial management; yearbook publication

**Content:** Yearbook

**Population:** General

---

## 239143 - Yearbook Production 3

**Grade Level:** 11 - 12

**Credits:** 1 English elective

**Description:** Special Topics: senior staff positions; financial management; yearbook publication

**Content:** Yearbook

**Population:** General

---

## 239144 - Yearbook Production 4

**Grade Level:** 12 - 12

**Credits:** 1 English elective

**Description:** Special Topics: senior staff positions; financial management; yearbook publication

**Content:** Yearbook

**Population:** General

---

## 239199 - Journalism (Mass Communications), Other

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics

**Content:** Introduction to Communication

**Population:** General

# English/ Language Arts - Radio/Television News Broadcast (239600)

A group of instructional programs that describe the methods and techniques by which radio and television news programs are produced and broadcasted.

---

## 239611 - Broadcast Journalism

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics: script preparation; voice and diction

**Content:** Broadcast Journalism

**Population:** General

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## 239699 - Radio/Television, Other General

**Grade Level:** 9 - 12

**Credits:** 1 English elective

**Description:** Special Topics

**Content:** Broadcast Journalism

**Population:** General

# Mathematics

## (270000)

# Mathematics - Middle (270200)

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## 270201 - Sixth Grade Mathematics

**Grade Level:** 6 - 6

**Credits:**

**Description:** This course should focus primarily on the four critical areas for grade 6: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Middle School Mathematics (general)

**Population:** General

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## 270202 - Seventh Grade Mathematics

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course should primarily focus on the four critical areas for grade 7: (1) developing understanding of and applying proportional relationships; (2) developing understanding of operations with rational numbers and working with expressions and linear equations; (3) solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and (4) drawing inferences about populations based on samples. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Middle School Mathematics (general)

**Population:** General

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## 270203 - Eighth Grade Mathematics

**Grade Level:** 8 - 8

**Credits:**

**Description:** This course should primarily focus on the three critical areas for grade 8: (1) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (2) grasping the concept of a function and using functions to describe quantitative relationships; (3) analyzing two- and three-dimensional space and figures using distance, angle, similarity, and congruence, and understanding and applying the Pythagorean Theorem. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Middle School Mathematics (general)  
**Population:** General

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## 270204 - Accelerated Sixth Grade Mathematics

**Grade Level:** 6 - 6

**Credits:**

**Description:** This course code should be used for the acceleration of middle school math curriculum for sixth graders and the course should be designed to prepare students to take high school mathematics in the middle school. This course should contain a compacted curriculum (content is compressed, not skipped) that allows students to accelerate and should focus primarily on the critical areas listed under Grades 6 - 8 mathematics in this document. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Middle School Mathematics (general)  
**Population:** General

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## 270205 - Accelerated Seventh Grade Mathematics

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course code should be used for the acceleration of middle school math curriculum for seventh graders and the course should be designed to prepare students to take high school mathematics in the middle school. This course should contain a compacted curriculum (content is compressed, not skipped) that allows students to accelerate and should focus primarily on the critical areas listed under Grades 7 - 8 mathematics in this document. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Middle School Mathematics (general)  
**Population:** General

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## 270206 - Accelerated Eighth Grade Mathematics

**Grade Level:** 8 - 8

**Credits:**

**Description:** This course code should be used for the acceleration of middle school math curriculum and the course should be designed to prepare students to accelerate in high school mathematics courses. This course should contain a compacted curriculum (content is compressed, not skipped) that allows students to accelerate and should focus primarily critical areas listed under Grade 8 mathematics in this document and some HS Algebra 1 content as listed in this document; however, credit in this course is not recognized as a high school graduation credit. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Middle School Mathematics (general)  
**Population:** General

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## 270235 - Algebra 2 (Grades 6-8 - HS Credit)

**Grade Level:** 6 - 8

**Credits:** 1

**Description:** NOTE: THIS IS NOT A VALID CODE AND DOES NOT APPEAR IN INFINITE CAMPUS. All Algebra II courses meeting the description below should use course code **270311**.

This course is designed so the students develop the relevant skills and concepts from the Kentucky Core Academic Standards beyond Algebra 1 and then builds on those skills and concepts in a rigorous manner. For the class of 2012 and the classes that follow, Algebra 2 is a graduation requirement. NOTE: This course may be titled Applied Algebra 2, Technical Algebra 2 or Interdisciplinary Algebra 2. The content of the course is Algebra II. **Students taking this course (when linked to 270311) are required to take the QualityCore End of Course (EOC) exam for Algebra 2.**

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_MATHEMATICS.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_MATHEMATICS.pdf)

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## 270242 - Algebra 1 (Grades 6-8 - non-HS credit)

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course should contain a compacted curriculum (content compressed, not skipped) that allows students to accelerate and complete the required math content of the middle grades and high school (HS) Algebra 1. This course should focus primarily on the critical areas of Grade 8 AND HS Algebra 1 content: represent relationships mathematically, develop fluency in writing, interpreting equations, translating between various forms of linear equations and inequalities using them to solve problems including system of equations, master the solution of linear equations, apply related solution techniques and the laws of exponents to solve simple exponential equations, understand functions definition and notation, contrast linear and exponential functions using the familiar tools of tables, graphs and symbols, use linear models and regression techniques with descriptive statistics, perform arithmetic operations on polynomials, factor quadratic and cubic expressions (seeing structure), solve quadratic equations to lay foundational work for quadratic functions and explore non-linear relationships. Students receiving credit for this course must take HS Algebra 1 to meet minimum high school graduation requirements. If this course has the same content, rigor and expectations of the HS Algebra 1 then this course meets the Kentucky minimum high school graduation requirement of Algebra 1 per KRS 158.622 and course code 270304 should be used.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra I

**Population:** General

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## 270243 - Geometry (Grades 6-8 - non-HS credit)

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course allows students to accelerate and complete high school (HS) Geometry in middle school. Students taking this course should have completed the middle school math compacted curriculum (content is compressed, not skipped) and HS Algebra I. This course should focus primarily HS Geometry content: prove theorems and solve problems about triangles, quadrilaterals, and other polygons, apply reasoning to complete geometric constructions and explanations, establish triangle congruence criteria based on analyses of rigid motions and formal constructions, use similarity to solve problems and apply similarity in right triangles to understand right triangle trigonometry with particular attention to special right triangles and the Pythagorean theorem, develop the Law of Sines and Cosines from understanding relationships in right triangles, apply knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line, connect algebraic concepts to geometric concepts through the rectangular coordinate system, such as deriving the equation of a circle given the center and radius length using the distance formula or Pythagorean Theorem and prove basic theorems about circles,

inscribed angle theorem and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. Students receiving credit for this course must take HS Geometry to meet minimum high school graduation requirements. If this course has the same content, rigor and expectations of the HS Geometry then this course meets the Kentucky minimum high school graduation requirement of Geometry per KRS 158.622 and course code 270233 should be used.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Geometry

**Population:** General

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## 270245 - Algebra 2 (Grades 6-8 - non-HS Credit)

**Grade Level:** 6 - 12

**Credits:** 0

**Description:** This course should focus primarily on HS Algebra 2 content: draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, connect multiplication of polynomials with polynomials of multi-digit integers and division of polynomials with long division of integers, identify zeros of polynomials and make connections between zeros of polynomials and solutions of polynomial equations, building on previous work with trigonometry ratios and circles, use coordinate geometry to extend trigonometry to model periodic phenomena, work with a variety of function families exploring the effects of transformations in order to generalize the effect regardless of the underlying function, analyze functions using different representations, build, interpret and compare functions including square root, cube root, piece-wise and logarithmic functions, identify appropriate types of functions to model a situation, adjust parameters to improve the model, compare models by analyzing appropriateness of fit and make judgments about the domain over which a model is a good fit. Students receiving credit for this course must take HS Algebra 2 to meet minimum high school graduation requirements however, if this course has the same content, rigor and expectations of HS Algebra 2 then this course meets the Kentucky minimum high school graduation requirement of Algebra 2 per KRS 158.622 and course code 270311 should be used. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra II

**Population:** General

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## 270290 - Mathematics Intervention (Grades 6-8)

**Grade Level:** 6 - 8

**Credits:**

**Description:** This course is designed for students who need additional assistance beyond the grade level math course. At grade 8, this course should be designed to ensure that students are appropriately ready for high school level mathematics. This course uses intervention strategies to build and support the student's mathematical understanding. This course should be taken in conjunction with the grade level math course and does not replace the grade level course. Intervention should be documented using the intervention tab in the student information system. This course should be named locally to reflect the content, e.g., 6th Grade Math Intervention, 7th Grade Math Intervention and 8th Grade Intervention

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** General Mathematics

**Population:** General

# Mathematics - Algebra

## (270300)

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### 270301 - HS Pre-Algebra

**Grade Level:** 9 - 10

**Credits:** 1E

**Description:** This course should focus on skills necessary to be successful in a HS Algebra 1 course and is not necessarily limited to the following: (1) completing understanding of division of fractions and extending the notion of number to the system of rational numbers and developing understanding of operations with rational numbers and writing, interpreting, and using expressions and equations; (2) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (3) developing understanding of and applying proportional relationships and solving problems involving scale drawings; (4) formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, and solving linear equations and systems of linear equations; (5) grasping the concept of a function and using functions to describe quantitative relationships; (6) understanding and applying the Pythagorean Theorem; (7) working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume and (8) developing understanding of statistical thinking and drawing inferences about populations based on samples. This course cannot serve as Algebra 1, Geometry or Algebra 2 credit for high school graduation.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Pre-Algebra

**Population:** General

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### 270302 - Algebra 1 (Part 1)/Algebra 1 (Part A)/ Algebra 0.5

**Grade Level:** 9 - 10

**Credits:** 1/1E

**Description:** This course is the first course of the set of Algebra 1 courses and is designed for students who might need two years (or two semesters in block schedules) to attain all the concepts addressed in a high school Algebra 1 course. Students must pass both courses (270302 and 270303) to earn the Algebra 1 credit for high school graduation. See HS Algebra 1 course code 270304 for a description of HS Algebra 1.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra I

**Population:** General

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### 270303 - Algebra 1 (Part 2)/Algebra 1 (Part B)

**Grade Level:** 9 - 10

**Credits:** 1/1E

**Description:** This course is the second course of the set of algebra 1 courses and is designed for students who might need two years (or two semesters in block schedules) to attain all the concepts addressed in a high school Algebra 1 course. Students must pass both courses (270302 and 270303) to earn the Algebra 1 credit for high school graduation. See HS Algebra 1 course code 270304 in this document for a description of HS Algebra 1. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>



**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra I

**Population:** General

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## 270304 - Algebra 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course should focus primarily on HS Algebra 1 content: represent relationships mathematically, develop fluency in writing, interpreting equations, translating between various forms of linear equations and inequalities using them to solve problems including system of equations, master the solution of linear equations, apply related solution techniques and the laws of exponents to solve simple exponential equations, understand functions definition and notation, contrast linear and exponential functions using the familiar tools of tables, graphs and symbols, use linear models and regression techniques with descriptive statistics, perform arithmetic operations on polynomials, factor quadratic and cubic expressions (seeing structure), solve quadratic equations to lay foundational work for quadratic functions and explore non-linear relationships. This course should be designed to meet the high school graduation credit for Algebra 1 and to build a solid foundation for students to be successful in HS Geometry and Algebra 2. NOTE: Since the content of Applied Algebra 1, Technical Algebra 1, Honors Algebra 1, Accelerated Algebra 1, MST Algebra 1 and interdisciplinary Algebra 1 courses is Algebra 1, the course code 270304 - HS Algebra 1 should be used; however, this course may be titled locally Applied Algebra 1, Technical Algebra 1, Honors Algebra 1, Accelerated Algebra 1, MST Algebra 1 or named as an interdisciplinary Algebra 1.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra I

**Population:** General

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## 270308 - Algebra 1 Intervention

**Grade Level:** 9 - 11

**Credits:** 0.5E or 1E

**Description:** This course is designed for students who need additional time to learn HS Algebra 1 topics and should run concurrently with HS Algebra 1. This course should use hands-on activities and explorations with graphing calculators to support the study of algebraic concepts addressed in a HS Algebra 1 course and should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet the Algebra 1 graduation requirement.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra I

**Population:** General

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## 270309 - Mathematics Intervention

**Grade Level:** 9 - 12

**Credits:** 0.5E or 1E

**Description:** This course is designed for students who need additional time and help with mathematical strategies. This course uses hands-on activities and explorations with graphing calculators to support the study of the concepts addressed in the standards for high school mathematics. This course should be designed to provide individualized support to enhance a student's college or career readiness. This course

does not meet any of the 3 required mathematics credits for high school graduation: Algebra 1, Geometry or Algebra 2. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** General Mathematics

**Population:** General

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## 270310 - Algebra 1.5/Introduction to Algebra 2

**Grade Level:** 9 - 11

**Credits:** 1E

**Description:** This course is designed for those students who have completed the HS Algebra 1 graduation credit, but are not deemed sufficiently prepared to attempt a rigorous, Algebra 2 course and should be designed to provide individualized support to enhance a student's preparedness for Algebra 2. The intent of this course is to go beyond Algebra 1 and prepare students for the Algebra 2 course. This course does not meet any of the 3 required mathematics credits for high school graduation: Algebra 1, Geometry or Algebra 2. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra II

**Population:** General

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## 270311 - Algebra 2

**Grade Level:** 6 - 12

**Credits:** 1

**Description:** This course should focus primarily on HS Algebra 2 content: draw on analogies between polynomial arithmetic and base-ten computation, focusing on properties of operations, connect multiplication of polynomials with polynomials of multi-digit integers and division of polynomials with long division of integers, identify zeros of polynomials and make connections between zeros of polynomials and solutions of polynomial equations, building on previous work with trigonometry ratios and circles, use coordinate geometry to extend trigonometry to model periodic phenomena, work with a variety of function families exploring the effects of transformations in order to generalize the effect regardless of the underlying function, analyze functions using different representations, build, interpret and compare functions including square root, cube root, piece-wise and logarithmic functions, identify appropriate types of functions to model a situation, adjust parameters to improve the model, compare models by analyzing appropriateness of fit and make judgments about the domain over which a model is a good fit.

NOTE: The content of the course is HS Algebra 2 and may be titled locally as Applied Algebra 2, Technical Algebra 2 or named as an interdisciplinary Algebra 2.

**Students taking this course should take the state end of course assessment (EOC) exam for Algebra 2.**

[http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore\\_MATHEMATICS.pdf](http://www.education.ky.gov/users/otl/POS/KentuckyCommonCore_MATHEMATICS.pdf)

This code is to be used for both middle and high school students taking Algebra 2 for graduation credit. It is also to be used in lieu of the Integrated/Applied Math 3 or 4 depending on which course completes the required high school math curriculum (see course code 270704). (Please consult the EPSB website regarding teaching permissions for grades 6-8. Credentials listed for this course code (270311) are for grades 8-12 mathematics teachers only.)

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra II

**Population:** General

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## 270318 - Algebra 2 Intervention

**Grade Level:** 9 - 12

**Credits:** 0.5E or 1E

**Description:** This course is designed for students who need additional time with Algebra 2 topics and runs concurrently with Algebra 2. This course should use hands-on activities and explorations with graphing calculators to support the study of algebraic concepts addressed in a HS Algebra 2 course and should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet the Algebra 2 graduation requirement.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Algebra II

**Population:** General

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## 270320 - College Algebra

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This course is designed to be equivalent to a credit-bearing college algebra course for students intending to enter into post-secondary education and pursue a degree that requires an algebra pathway. The content goes beyond a traditional Algebra 2 course. This course code can be used for dual credit college algebra. Kentucky's public college readiness scores for college algebra are: ACT - 22 or higher, SAT 510 or higher, KYOTE College Algebra 14 or higher and COMPASS Algebra Domain 50 or higher.

<http://cpe.ky.gov/nr/rdonlyres/78b3510a-cecd-4157-8f20-3e3499707daa/0/collegereadinessindicators.pdf>

**Content:** Advanced Topics in Mathematics

**Population:** General

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## 270321 - Algebra 3/Preparation for College Algebra

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** The content should go beyond traditional Algebra 2 content. This course is designed for students who are intending to enter into post-secondary education and perhaps pursue a degree that requires an algebra pathway but are in need of additional mathematics preparation in order to be successful in a credit-bearing college algebra course (see course description for College Algebra 270320).

**Content:** Advanced Topics in Mathematics

**Population:** General

# Mathematics - Geometry (270400)

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## 270401 - Geometry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course should focus primarily on HS Geometry content: prove theorems and solve problems about triangles, quadrilaterals, and other polygons, apply reasoning to complete geometric constructions and explanations, establish triangle congruence criteria based on analyses of rigid motions and formal constructions, use similarity to solve problems and apply similarity in right triangles to understand right triangle trigonometry with particular attention to special right triangles and the Pythagorean theorem, develop the Law of Sines and Cosines from understanding relationships in right triangles, apply knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line, connect algebraic concepts to geometric concepts through the rectangular coordinate system, such as deriving the equation of a circle given the center and radius length using the distance formula or Pythagorean Theorem and prove basic theorems about circles, inscribed angle theorem and theorems about chords, secants, and tangents dealing with segment lengths and angle measures. Since the content of Applied Geometry, Technical Geometry, Honors Geometry, Accelerated Geometry, MST Geometry and other courses named as an interdisciplinary geometry is HS geometry, the course code 270401 - HS Geometry should be used; however, this course may be titled locally as Applied Geometry, Technical Geometry, Honors Geometry, Accelerated Geometry, MST Geometry or named as an interdisciplinary Geometry. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Geometry

**Population:** General

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## 270406 - Geometry Intervention

**Grade Level:** 9 - 12

**Credits:** 0.5E or 1E

**Description:** This course is designed for students who need additional time with HS Geometry topics and runs concurrently with HS Geometry. This course should use hands-on activities and explorations with graphing calculators to support the study of geometric concepts addressed in a HS Geometry course and should be designed to provide individualized support to enhance a student's college or career readiness. This course does not meet the HS Geometry graduation requirement.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Geometry

**Population:** General

# Mathematics - Calculus (270500)

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## 270501 - Pre-Calculus

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed for students to attain the concepts necessary to be successful in a Calculus course, an AP Calculus course or a College Calculus course. Since the content of Honors Pre-Calculus, Accelerated Pre-Calculus and MST Pre-Calculus is Pre-Calculus, the course code 270501 Pre-Calculus should be used; however, this course may be titled locally as Honors Pre-Calculus, Accelerated Pre-Calculus or MST Pre-Calculus. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Pre-Calculus

**Population:** General

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## 270505 - IB Pre-Calculus

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed to address the curriculum for the IB Pre-Calculus course as described in the International Baccalaureate (IB) guidelines. Only schools with an IB program should use this code (270505) for Pre-Calculus. All others should use course code 270501 Pre-Calculus.

**Content:** Pre-Calculus

**Population:** General

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## 270506 - College Calculus III (For Dual Credit Only)

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This college level mathematics course develops main ideas of differentiation and integration of functions of several variables and introduces vector calculus. This course should focus primarily on: vectors, analytic geometry of 3-dimensional space, functions of several variables, partial derivatives, directional derivatives, integrals of functions of two and three variables, vector fields, line integrals, Green's theorem, and the divergence theorem. Prerequisite for this course: College Board AP Calculus BC score of 4 or 5 on AP exam, or Calculus II dual credit course with a 'C' or better.

**Content:** Calculus

**Population:** General

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## 270511 - Calculus

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This course is designed to address all the concepts normally covered in differential and integral calculus. Students taking this course are not expected to take the College Board Advanced Placement exam for AP Calculus AB or BC.

**Content:** Calculus

**Population:** General

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## 270512 - IB Calculus

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This course is designed to address the curriculum for the IB Calculus course as described in the International Baccalaureate guidelines. Only schools with an IB program should use this code (270512) for Calculus. All other schools should use course code 270511 Calculus or 270513 AP Calculus AB.

**Content:** Calculus

**Population:** General

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## 270513 - AP Calculus AB

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed to address all the concepts delineated in the College Board guidelines for the AP Calculus AB examination. Students taking this course may be required to take the AP Calculus AB exam. According to the College Board description of AP Calculus, "(These courses) are primarily concerned with developing the students' understanding of the concepts of calculus and providing experience with its methods and applications. The courses emphasize a multirepresentational approach to calculus, with concepts, results, and problems being expressed graphically, numerically, analytically, and verbally. The connections among these representations also are important" and "Technology should be used regularly by students and teachers to reinforce the relationships among the multiple representations of functions, to confirm written work, to implement experimentation, and to assist in interpreting results."

<http://media.collegeboard.com/digitalServices/pdf/ap/ap-calculus-course-description.pdf>

**Content:** AP Calculus

**Population:** General

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## 270514 - AP Calculus BC

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This course is designed to address all the concepts delineated in the College Board guidelines for the BC Calculus examination.

**Content:** AP Calculus

**Population:** General

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## 270515 - College Calculus II (For Dual Credit Only)

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This college level mathematics course includes applications of integration, advanced integration techniques, sequences and infinite series, and parametric and polar equations. This course further develops techniques and applications of integration and is an introduction to sequences and series. Topics include integration strategies, computing areas and volumes, arc length, parametric curves, polar coordinates, sequences and series, tests for convergence of series, power series, and Taylor series. This course is not associated with the College Board AP Calculus AB or BC examinations. Prerequisite for this course: College Board AP Calculus AB score of 4 or 5 on AP exam or Calculus I dual credit course with a 'C' or better.

**Content:** Calculus

**Population:** General

# Mathematics - Other Mathematical Topics (270600)

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## 270601 - Data and Measurement

**Grade Level:** 9 - 12

**Credits:** 1E

**Description:** This course should focus primarily on the conceptual categories: Statistics & Probability and Modeling and should include summarizing, representing and interpreting data and making inferences, justifying conclusions representing using linear, quadratic and exponential relationships and modeling descriptively and analytically. Technology should be an integral part of this course to generate plots, regressions functions and correlation coefficients and to simulate possible outcomes relatively quickly based on a given situation. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Extended Topics In Algebra (Data and Measurement)

**Population:** General

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## 270602 - Probability and Statistics

**Grade Level:** 9 - 12

**Credits:** 1E

**Description:** This course should focus primarily on the conceptual categories: Statistics & Probability and Modeling to address such concepts as theoretical and experimental probability, independent and conditional probability using them to interpret data, rules of probability to compute probabilities of compound events in a uniform probability model, calculations of expected values, analysis of decisions and strategies using probability concepts, binomial distributions, normal distributions, displaying and describing distributions of data, collecting data, measures of central tendency and spread and methods of inferential statistics. Technology should be an integral part of this course to generate plots, regressions functions and correlation coefficients and to simulate possible outcomes relatively quickly based on a given situation.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Probability/Statistics

**Population:** General

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## 270604 - AP Statistics

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This course is designed to address all the concepts delineated in the College Board guidelines for the AP Statistics examination. Students taking this course may be required to take the AP Statistics exam. According to College Board description of AP Statistics, "The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes: (1) Exploring Data: Describing patterns and departures from patterns, (2) Sampling and Experimentation: Planning and conducting a study, (3) Anticipating Patterns: Exploring random phenomena using probability and simulation and (4) Statistical Inference: Estimating population parameters and testing hypotheses."

<http://media.collegeboard.com/digitalServices/pdf/ap/ap-statistics-course-description.pdf>

**Content:** AP Statistics

**Population:** General

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## 270611 - Discrete Mathematics

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed for students who have completed high school mathematics courses through Algebra 2 and are interested in a future in business or computer applications, and should address such topics as set theory, proofs by mathematical induction, graph theory, permutations and combinations, and other topics as deemed appropriate. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Finite/Discrete Mathematics

**Population:** General

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## 270612 - Finite Mathematics

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed for students who have completed high school mathematics courses through Algebra 2, and should include modeling situations through linear systems using matrices, linear inequalities systems (programming), data analysis, probability and finance applications. See conceptual category Modeling for the basic mathematical modeling cycle and examples of modeling situations.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Finite/Discrete Mathematics

**Population:** General

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## 270621 - Advanced Topics in Mathematics

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed for students who have completed Algebra 1, Geometry and Algebra 2 content and should allow students to pursue topics in mathematics beyond content required for high school students. This course may cover topics from combined higher level courses or topics which are not found in other higher level courses but are of interest to students for college and career readiness. This course should be locally named according to the major content of the course.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Advanced Topics in Mathematics

**Population:** General

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## 270631 - Trigonometry

**Grade Level:** 10 - 12

**Credits:** 1E

**Description:** This course is designed for students who have completed Algebra 2 and want to proceed further into aspects of Trigonometry. This course should focus primarily on the conceptual categories:

Algebra, Functions and Geometry. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Trigonometry

**Population:** General

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## 270641 - Mathematics for Business and Industry

**Grade Level:** 9 - 12

**Credits:** 1E

**Description:** This course is designed as an interdisciplinary course that would be offered through the business strand of the career/technical education program. This course employs high school mathematics content with business emphasis; which enables the student to explore mathematical content for personal, business and industrial use. Math concepts and skills are applied through study and problem-solving activities in real-world situations in the following areas: banking, measurement, borrowing and investing, consumer purchases, and financial management. Leadership development will be provided through FBLA or DECA. See the most current Business Education Program of Studies document for course specific content. <http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Math for Business and Industry for the Math Elective Requirement

**Population:** General

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## 270643 - Technical Mathematics

**Grade Level:** 10 - 12

**Credits:** 0.5E or 1E

**Description:** Some mathematical concepts from algebra, geometry, and trigonometry and applications relevant to these topics are studied. Topics to be covered include unit conversions, variation, measurement of geometric figures, vectors, and solving right and oblique triangles using trigonometry. Emphasis is on applications in the various technologies.

**Content:** General Mathematics

**Population:** General

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## 270651 - Math - Independent Study

**Grade Level:** 9 - 12

**Credits:** 0.5E or 1E

**Description:** This course is designed to provide an opportunity for the student to make an in-depth study on a topic related to mathematics. The student has the responsibility and freedom to research, analyze, evaluate, and present conclusions in written and/or oral form. Students would apply and be accepted for independent study in a manner determined by the local district. Local course name should reflect the topic being studied.

**Content:** General Mathematics

**Population:** General

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## 270661 - Mathematics Concepts

**Grade Level:** 10 - 12

**Credits:** 0.5E or 1E

**Description:** This course is designed to be taken after completion of Algebra 1, Geometry and Algebra 2. Topics include probability and statistics, extension of algebra and geometry concepts, and discrete mathematics. This course could serve as a mathematics elective for high school graduation, but not as one of the three required credits for high school graduation: Algebra 1, Geometry or Algebra 2.

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Mathematics

**Population:** General

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## 270690 - Multi-Subject/Multi-Grade Mathematics

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is to be used for resource special education and alternative setting classrooms where students are receiving instruction in multiple content areas within the Math core. The individualized content for each specific course taught under this umbrella code must meet the description listed in the State Uniform Course Code document for that course. This code should not be utilized when instruction is being provided related to one specific course.

**Students taking courses where an End Of Course (EOC) exam is required must be enrolled in a course with the appropriate EOC related state course code. This code cannot be used for EOC exam required content areas.**

A highly qualified teacher is required to teach this course.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Mathematics

**Population:** Varies

Certification requirements are dependent upon the population being served.

# Mathematics - Integrated Mathematics (270700)

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## 270701 - Integrated/Applied Mathematics 1

**Grade Level:** 9 - 10

**Credits:** 1

**Description:** This course is the first year of Integrated Mathematics pathway. The integrated approach to high school mathematics is typically seen internationally and consists of a sequence of three to four courses depending on school's curriculum; each course includes number, algebra, geometry, probability and statistics and is no less rigorous than a traditional pathway: Algebra 1, Geometry and Algebra 2. Typically Integrated I has more geometric concepts than a traditional Algebra I course. For possible models on how to organize HS standards into courses, see the Common Core State Standards, Appendix A: Integrated Model Course Pathways in Mathematics at

[http://www.corestandards.org/assets/CCSSI\\_Mathematics\\_Appendix\\_A.pdf](http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf)

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Integrated Mathematics 1

**Population:** General

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## 270702 - Integrated/Applied Mathematics 2

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** This course is the second year of Integrated Mathematics. The integrated approach to high school mathematics is typically seen internationally and consists of a sequence of three to four courses depending on school's curriculum; each course includes number, algebra, geometry, probability and statistics and is no less rigorous than a traditional pathway: Algebra 1, Geometry and Algebra 2. Typically Integrated II has a blend of geometric and algebraic concepts along with probability. For possible models on how to organize HS standards into courses, see the Common Core State Standards, Appendix A: Integrated Model Course Pathways in Mathematics at

[http://www.corestandards.org/assets/CCSSI\\_Mathematics\\_Appendix\\_A.pdf](http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf)

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Integrated Mathematics 2

**Population:** General

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## 270703 - Integrated/Applied Mathematics 3

**Grade Level:** 10 - 12

**Credits:** 0

**Description:** This is no longer an active course code. Students enrolled in the third course in the sequence of integrated curricula should be enrolled a course linked to the Algebra II state course code of **270311**.

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## 270704 - Integrated/Applied Mathematics 3 or 4

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This course is for the third or fourth year of Integrated Mathematics depending on the school's integrated mathematics curriculum. Typically, the third course completes the Algebra 2 content for high school; so, if Integrated Mathematics 3 completes the school's integrated mathematics curriculum then the course code 270311 Algebra 2 should be used for Integrated Mathematics 3 and this code (270704) should be used for Integrated Mathematics 4. However, if Integrated 4 completes the school's integrated mathematics curriculum then this code (270704) should be used for Integrated 3 and course code 270311 Algebra 2 should be used for Integrated Mathematics 4. The courses should be named appropriately at the local level. For possible models on how to organize HS standards into courses, please see the Common Core State Standards, Appendix A: Integrated Model Course Pathways in Mathematics at

[http://www.corestandards.org/assets/CCSSI\\_Mathematics\\_Appendix\\_A.pdf](http://www.corestandards.org/assets/CCSSI_Mathematics_Appendix_A.pdf)

<http://education.ky.gov/curriculum/docs/Documents/KCAS%20-%20June%202013.pdf>

**Content:** Integrated Mathematics 4

**Population:** General

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## 270710 - Math Ready: Ready for College-Level Math

**Grade Level:** 11 - 12

**Credits:** 0.5E or 1E

**Description:** This course is developed by the Southern Regional Educational Board (SREB). According to the SREB Math Ready course description, this course "emphasizes understanding of math concepts rather than just memorizing procedures. Math Ready students learn the context behind the procedure: why to use a certain formula or method to solve a problem, for example. This equips them with higher-order thinking to apply math skills, functions and concepts in different situations."

[http://www.sreb.org/page/1684/math\\_ready.html](http://www.sreb.org/page/1684/math_ready.html)

**Content:** Mathematics

**Population:** General

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## 270718 - College and Career Readiness Mathematics

**Grade Level:** 11 - 12

**Credits:** 0.5E or 1E

**Description:** This course is designed for students who need additional instruction to prepare for college mathematics or who may not have attained Kentucky's benchmark ACT score in mathematics and should be designed to provide individualized support to enhance a student's college or career readiness. This course may serve as a mathematics elective for high school graduation, but not as one of the 3 required math courses for high school graduation: Algebra I, Geometry, or Algebra II. This course primarily addresses mathematics content covered in previous courses, and may not be approved for use in the initial-eligibility NCAA certification process. Resources for this course can be found at

<http://education.ky.gov/educational/int/hscf/Pages/HSTransitionalIntervention.aspx>.

**Content:** General Mathematics

**Population:** General

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## 270720 - College Liberal Arts Mathematics (For Dual Credit Only)

**Grade Level:** 11 - 12

**Credits:** 1E

**Description:** This college level mathematics course is an introduction to the application of mathematics using real-world situations. Topics are from various branches of discrete mathematics and include the concepts of ratio and proportion, units and conversions, linear equations in two variables, inequalities, graphing and writing equation of a line, percent, interest, and logical symbolism, as well as concepts from geometry, finance, descriptive statistics and probability. This course code should be used for all dual credit math courses that are categorized as College Introductory Quantitative Reasoning courses for the liberal arts pathway. Depending upon a student's choice of college or university, this course can meet the requirements for a major that does not require a college algebra pathway.

**Content:** Finite/Discrete Mathematics

**Population:** General

# Science

(300000)

# Science - Elementary/Middle (300100)

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## 300150 - Physical Science 5

**Grade Level:** 5 - 5

**Credits:**

**Description:** Students will develop conceptual understandings of physical science through using scientific inquiry. In this course, students will experience physical science concepts of properties and changes of properties in matter, motions and forces, and transfer of energy, as described in Kentucky's Program of Studies for Intermediate Level Science. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills.

**Content:** Physical Science

**Population:** General

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## 300155 - Integrated Science 5

**Grade Level:** 5 - 5

**Credits:**

**Description:** In this course, students experience transfer of energy, structure of the Earth system, and structure and function in living systems, as outlined in Kentucky's Program of Studies for Intermediate Science. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills.

**Content:** Integrated Science (Non-High School)

**Population:** General

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## 300160 - Life Science 6

**Grade Level:** 6 - 6

**Credits:**

**Description:** Students will develop conceptual understandings of life science through using scientific inquiry. In this course, students will experience life science concepts of structure and function in living systems, reproduction and heredity, regulation and behavior, populations and ecosystems, and diversity and adaptations of organisms, as described in Kentucky's Program of Studies for Middle Level Science. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills.

**Content:** Life Science

**Population:** General

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## 300166 - Integrated Science 6

**Grade Level:** 6 - 6

**Credits:**

**Description:** In this course, students experience motion and forces, Earth in the Solar System, regulation and behavior, and populations and ecosystems, as described in Kentucky's Program of Studies for Middle Level Science. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills.

**Content:** Integrated Science (Non-High School)

**Population:** General

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## 300169 - Grade 6: Environmental Studies

**Grade Level:** 6 - 6

**Credits:**

**Description:** This sixth grade course model is an integrated approach to the study of our environment and the factors that affect it. All content from the sixth grade science portion of the Program of Studies is presented in environmental contexts. Sample activities are provided to illustrate an instructional alliance that initiates student inquiry, builds understanding of scientific concepts, and promotes applications to real-life situations. The sample activities make connections to other content areas where the connection is natural and authentic. Thus, students are provided opportunities to reinforce and extend the content and process skills they have learned in other subject areas. Suggested activities are not comprehensive; that is, they are starting points to plan instruction for the required content and may need to be adjusted for individual students and school situations.

**Content:** Earth Science

**Population:** General

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## 300170 - Earth Space Science 7

**Grade Level:** 7 - 7

**Credits:**

**Description:** Students will develop conceptual understandings of earth/space science through using scientific inquiry. In this course, students will experience earth/space concepts of structure of the Earth system, Earth's history, and Earth in the Solar System, as described in Kentucky's Program of Studies for Middle Level Science. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills.

**Content:** Earth-Space Science

**Population:** General

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## 300177 - Integrated Science 7

**Grade Level:** 7 - 7

**Credits:**

**Description:** In this course, students experience properties and changes of properties in matter, Earth's history, reproduction and heredity, and diversity and adaptations of organisms, as described in Kentucky's Program of Studies for Middle Level Science. A scientific inquiry approach uses concrete hand-on experiences that requires students to apply critical thinking skills

**Content:** Integrated Science (Non-High School)

**Population:** General

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## 300188 - Integrated Science 8

**Grade Level:** 8 - 8

**Credits:**

**Description:** In this course, students will be engaged in activities which will develop their understandings about Life, Earth and Space, and Physical Science concepts, as well as unifying ideas and concepts such as Energy Transformations and Interdependence as described in Kentucky's Program of Studies for Middle Level Science. A scientific inquiry approach involving the use of concrete hands-on experiences that requires students to apply critical thinking skills is embedded in this course.

**Content:** Integrated Science (Non-High School)

**Population:** General

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## 300195 - Forensics (6-8)

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** This course is a problem-based inquiry course dealing with Forensic sciences.

**Content:** Forensic Science

**Population:** General

# Science - High School Life Science (302600)

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## 302601 - Life Science/Biology 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of life science, as outlined in Kentucky's Program of Studies, through the use of scientific inquiry. They experience life science concepts such as the cellular organization; molecular basis of heredity; biological change; interdependence of organisms; matter, energy and organization in living systems; and behavior of organisms. A scientific inquiry approach uses concrete, hands-on experiences that require students to apply critical-thinking skills. It is suggested that the physical science course be taken before either Earth/space science or life science. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Life Science

**Population:** General

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## 302602 - Biology II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is a second-level biology course for average or college track students. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Biology

**Population:** General

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## 302603 - Honors Biology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course allows students to attain all the concepts contained in the description for Biology, with the opportunity provided for students to progress ahead of the non-honors course.

**Content:** Biology

**Population:** General

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## 302611 - Biochemistry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Major concepts addressed in this course include biochemical evolution, macromolecules, metabolism, glycolysis, photosynthesis, and respiration. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Biochemistry

**Population:** General

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## 302612 - Botany

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of the plant kingdom, including plant evolution, classification, plant ecology, and domestic plants. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Botany

**Population:** General

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## 302613 - Microbiology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of microbiological techniques, viruses, fungi, protozoans, bacteria, and pathogenic organisms. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Microbiology

**Population:** General

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## 302614 - Ecology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Major concepts addressed in this course include biotic and abiotic factors, energy flow, mineral cycles, ecosystems, and biomes. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Ecology

**Population:** General

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## 302615 - Zoology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of the animal kingdom, including organ systems and dissection.

**Content:** Zoology

**Population:** General

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## 302616 - Forensics

**Grade Level:** 9 - 12

**Credits:** 1 credit

**Description:** This course is a problem-based inquiry course dealing with Forensic sciences.

**Content:** Forensic Science

**Population:** General

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## 302618 - Medical Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This one-credit course uses health occupations as a vehicle to present the life science content outlined in the Program of Studies. The course is interdisciplinary in nature and integrates academic expectations and activities with the disciplines of life science, mathematics, health, social studies, language arts, arts and humanities, and vocational studies. During their study of medical science, students will gain an understanding of the normal structure and function of the human body through scientific inquiry. Life science conceptual understandings, applications, and connections make this science relevant to students. Anatomy, physiology, physics, and chemistry concepts are reinforced with real-life analogies and health-related examples are used to illustrate potentially difficult scientific concepts.

**Content:** Medical Science for the Life Science Component within the Science Requirement

**Population:** General

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## 302621 - Marine Biology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course addresses key concepts related to marine science, including ocean zones, seawater, habitats, and marine taxonomy.

**Content:** Marine Biology

**Population:** General

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## 302623 - IB Environmental Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. This course may include, but is not limited to, the topics from the Environmental Systems Standard Level syllabus specified by the International Baccalaureate Organization. Topics may include: systems and models, the ecosystem, global cycles and physical systems, human population and carrying capacity, analyzing ecosystems, impacts of resource exploitation and conservation & biodiversity, pollution management. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Ecology

**Population:** General

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## 302631 - Anatomy

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Major concepts addressed in this course include plant structure, animal structure, tissues, organs, and systems.

**Content:** Anatomy and Physiology

**Population:** General

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## 302643 - Pre IB Biology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Biology. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Life Science

**Population:** General

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## 302644 - IB Biology 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Biology. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Life Science

**Population:** General

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## 302645 - IB Biology 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Biology. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Life Science

**Population:** General

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## 302646 - AP Biology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** AP Biology is designed to be the equivalent of a college introductory biology course usually taken by biology majors during their first year. It aims to provide students with the conceptual framework, factual knowledge and analytical skills necessary to deal critically with the rapidly changing science of biology. The two main goals of AP Biology are to help students develop a conceptual framework for modern biology and to help students gain an appreciation of science as a process. The ongoing information explosion in biology makes these goals even more challenging. Primary emphasis in an Advanced Placement Biology course should be on developing an understanding of concepts rather than on memorizing terms and technical details. Essential to this conceptual understanding are the following: a grasp of science as a process rather than as an accumulation of facts; personal experience in scientific inquiry; recognition of unifying themes that integrate the major topics of biology; and application of biological knowledge and

critical thinking to environmental and social concerns. AP Biology is representative of the topics covered by the AP exam. Accordingly, goals have been set for percentage coverage of three general areas:

- Molecules and Cells, 25%
- Heredity and Evolution, 25%
- Organisms and Populations, 50%

Students should have successfully completed high school biology and high school chemistry.

NOTE: If this course is to be used as a graduation requirement it must adhere to the content requirements of the Program of Studies.

**Content:** AP Biology

**Population:** General

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## 302651 - Human Physiology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of the human body, including nutrition concepts, digestive system, circulatory system, nervous system, and the reproductive system.

**Content:** Anatomy and Physiology

**Population:** General

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## 302661 - Genetics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Major concepts addressed in this course include mutation, heredity, genetic principles, DNA and RNA, recombination, and viruses.

**Content:** Life Science

**Population:** General

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## 302670 - Dual Credit Biological Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school that offers advanced level experiences in the concepts of found in the biological sciences. This course should include advanced laboratory, field and literature investigations. In this course, students refine their scientific inquiry skills as they collaboratively and independently apply their knowledge of the unifying themes of biology to biological questions and problems.

**Content:** Life Science

**Population:** General

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## 302680 - AgriBiology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This one-credit course uses agricultural contexts to present the life science content outlined in the Program of Studies. As students study practical agricultural concepts, they apply scientific ways of thinking and working to real-life problems. During their study of agri-biology, students perform many practical tasks. They create models, extract DNA, analyze DNA fingerprints, construct tables and graphs to classify and analyze data, and test soils. Students also participate in cooperative and collaborative groups, use technology to solve problems, and participate in field trips to apply scientific concepts to agricultural and environmental problems. Students develop an understanding of many concepts such as cell structure and

function, morphology and physiology of agriculturally significant animals, heredity principles and inheritance patterns, genetic engineering, animal behavior, biological change, interdependence of plants and animals, and the flow of matter and energy through ecosystems. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Agribiology for Life Science Credit

**Population:** General

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## 302685 - Agriscience

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is an interdisciplinary course that deals with the Life Sciences, as described in Kentucky's Program of Studies, via agricultural contexts. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Agriscience for Life Science Credit

**Population:** General

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## 302698 - Intro Biology with Earth/Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of Biology and Earth/Space Science through the use of scientific inquiry. They experience biology and Earth/space science concepts, as outlined in Kentucky's Program of Studies, such as structure and function of cells; molecular basis of heredity; biological change; changes in the Earth system; interdependence of organisms; matter, energy and organization in living systems; and the behavior of organisms. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills. For this model the suggested sequence is Introductory Physics with Earth/Space Science, Introductory Chemistry with Earth/Space Science, and Introductory Biology with Earth/Space Science. **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

**Content:** Life Science

**Population:** General

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## 302699 - Special Topics: Life Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The content of this Life Science course is determined by the teacher/student.

**Content:** Life Science

**Population:** General

# Science - High School Integrated (303000)

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## 303010 - Astrobiology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is an inquiry-based course designed around the scientific study of life in the universe--its origin, evolution, distribution and future. This multidisciplinary course brings together the physical and biological sciences to address some of the most fundamental questions of the natural world: How do living systems emerge? How do habitable worlds form and how do they evolve? Does life exist on worlds other than Earth and what forms may they take? **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence.**

Approval to offer this course must be made on an individual basis. Approval will be based upon the relative proportions of science disciplines addressed in the course syllabus and the credentials of the assigned teacher.

**Content:** Integrated Science 4

**Population:** General

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## 303020 - Science Intervention

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course description is reserved for targeted intervention or remediation courses in science.

**Content:** Integrated Science 1

**Population:** General

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## 303051 - Conceptual Progression Science I

**Grade Level:** 8 - 12

**Credits:** 1

**Description:** This lab based introductory course is designed around the Conceptual Progressions course map described in Model Course Mapping in Middle and High School for the Next Generation Science Standards (Appendix K) published by Achieve, Inc. This course duplicates the content of Course 1 in Table 2 (p. 12) of that document. Students examine the Physical Science Disciplinary Core Ideas (DCI) of Structure & Properties of Matter, Chemical Reactions, Conservation of Energy & Energy Transfer, Definitions of Energy, Forces & Motion, Types of Interactions and Wave Properties. Life science DCI examined are Interdependent Relationships in Ecosystems. Earth/Space Science DCI are the Earth & the Solar System, Natural Resources, Plate Tectonics & Large-scale Interactions and The Roles of Water in Earth's Surface Processes. The concepts of Engineering Design are also included in this course. This course is designed to be offered as the first course of a sequence that includes 303052 Conceptual Progressions Science II and 303053 Conceptual Progressions Science III.

**Content:** Conceptual Progression Science 1

**Population:** General

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## 303052 - Conceptual Progression Science II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This lab based course is designed around the Conceptual Progressions course map described in Model Course Mapping in Middle and High School for the Next Generation Science Standards (Appendix K) published by Achieve, Inc. This course duplicates the content of Course 2 in Table 2 (p. 12) of that document. Students examine the Physical Science Disciplinary Core Ideas (DCI) of Energy & Processes in Everyday Life, Relationship between Energy & Forces, Information Technologies and Instrumentation and Electromagnetic Radiation. Life science DCI examined Structure & Function, Growth & Development of Organisms, Organization For Matter & Energy Flow in Organisms, Cycles of Matter & Energy Transfer in Ecosystems, Inheritance of Traits and Variation of Traits. Earth/Space Science DCI are The Universe & its Stars, Earth Materials & Systems, Weather & Climate and Natural Hazards. The concepts of Engineering Design are also included in this course. This course is designed to be offered as the middle course of a sequence that includes 303051 Conceptual Progressions Science I and 303053 Conceptual Progressions Science III.

**Content:** Conceptual Progression Science 2

**Population:** General

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## 303053 - Conceptual Progression Science III

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This lab based introductory course is designed around the Conceptual Progressions course map described in Model Course Mapping in Middle and High School for the Next Generation Science Standards (Appendix K) published by Achieve, Inc. This course duplicates the content of Course 3 in Table 2 (p. 12) of that document. Students examine the Physical Science Disciplinary Core Ideas (DCI) of Nuclear Processes and Stability & Instability in Physical Systems. Life science DCI examined are Information Processing, Ecosystem Dynamics Functioning & Resilience, Social Interaction & Group Behavior, Evidence of Common Ancestry & Diversity, Natural Selection, Adaptation, and Biodiversity & Humans. Earth/Space Science DCI are History of Planet Earth, Biogeology, Human Impacts on Earth Systems and Global Climate Change. The concepts of Engineering Design are also included in this course. This course is designed to be offered as the culmination of a sequence that includes 303051 Conceptual Progressions Science I and 303052 Conceptual Progressions Science II. **Students will be required to complete the QualityCore Biology EOC exam upon completion of this course.**

**Content:** Conceptual Progression Science 3

**Population:** General

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## 303090 - Multi-Subject/Multi-Grade Science

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is to be used for resource special education and alternative setting classrooms where students are receiving instruction in multiple content areas within the Science core. The individualized content for each specific course taught under this umbrella course must meet the standards listed in this document. A highly qualified teacher is required. This course number should not be utilized when instruction is being provided related to one specific course.

**Students taking courses where an End Of Course (EOC) exam is required must be enrolled in a course with the appropriate EOC related state course code. This code cannot be used for EOC exam required content areas.**

Certification requirements are dependent upon the population being served.

**Content:** Integrated Science 1

**Population:** Varies

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## 303091 - Integrated Science I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This inquiry based introductory course is designed around the themes of patterns of change and systems, order, and organization. Students examine the organization of the universe by beginning with the fundamental laws that give order, continue with the way these laws affect the Earth and the organization of life, and conclude with how life responds to these laws. Guiding Questions (based on content described in Kentucky's Program of Studies for High School Science): How can we use forces and the laws of motion to understand the motion of objects? How do observable structures on Earth's surface enable us to determine the internal energy sources of the Earth? How can we observe the effect of the Sun's energy on the Earth's surface and atmosphere? How does Earth's internal and external sources of energy affect Earth's geochemical cycles? How are organisms dependent on the cycling of atoms and molecules, energy flow, and each other in an ecosystem? How do behavioral responses to stimuli ensure individual survival and reproductive success for species? When energy is transferred what forms can it assume? **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence and the course syllabus.**

**Content:** Integrated Science 1

**Population:** General

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## 303092 - Integrated Science II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The theme of this inquiry based course is constancy and change over time. Students examine constancy in the natural world as well as changes that continually occur. Students examine the formation of matter and energy, properties and interactions, formation of the solar system, and conclude with the constancy of matter and energy in living systems. Guiding Questions (based on content described in Kentucky's Program of Studies for High School Science): What are the components and structure of the universe? How are chemical and physical properties of matter related to the structure of matter? What happens when energy interacts with matter? What evidence can be found that the Earth and solar system have changed over time? What evidence suggests that species change over time and how is biological classification used to explain relationships among diverse organisms? What processes are involved in the flow of matter and energy through and between living systems and the physical environment? How does the law of conservation of energy help me understand the movement of energy? **Students may be required to complete the QualityCore Biology EOC exam upon completion of this course, depending upon their individual course sequence and the course syllabus.**

Approval to offer this course must be made on an individual basis. Approval will be based upon the relative proportions of science disciplines addressed in the course syllabus and the credentials of the assigned teacher.

**Content:** Integrated Science 2

**Population:** General

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## 303093 - Integrated Science III

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This inquiry based course is developed around the themes of evidence, models, and explanation. Students examine the evidence and models that scientists use to explain the natural world in order to expand on the concepts introduced in Integrated Science I and II. The course is designed to promote ways of applying and integrating scientific ways of thinking to daily life. Guiding Questions (based

on content described in Kentucky's Program of Studies for High School Science): How do observable properties of matter enable us to determine the structure of atoms? What evidence can we find that the universe is in the process of continuous change? What causes chemical reactions that affect our daily lives? How are Earth's chemical reservoirs affected by the internal and external sources of energy? How do cell structures, functions, and processes affect living things? How does DNA transfer genetic information of organisms to the next generation? How does the tendency for everything to become less organized help me understand the movement of energy? Approval to offer this course must be made on an individual basis. Approval will be based upon the relative proportions of science disciplines addressed in the course syllabus and the credentials of the assigned teacher.

**Content:** Integrated Science 3

**Population:** General

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## 303099 - Special Topics, Interdisciplinary

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course description is reserved for interdisciplinary classes involving one or more content areas other than science. This code is to be used when credit for the class is given in science and the teacher of record is science certified. Approval to offer this course must be made on an individual basis.

Approval will be based upon the relative proportions of science disciplines addressed in the course syllabus and the credentials of the assigned teacher.

**Content:** Integrated Science 4

**Population:** General

# Science - High School Physical Sciences (304000)

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## 304021 - Physical Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of physical science, as outlined in Kentucky's Program of Studies, through the use of scientific inquiry. They experience physical science concepts such as structure of atoms, structure and properties of matter, chemical reactions, motions and forces, conservation of energy and increase in disorder, and interactions of energy and matter. A scientific inquiry approach uses concrete, hands-on experiences that require students to apply critical-thinking skills. It is suggested that the physical science course be taken before either Earth/space science or life science.

**Content:** Physical Science

**Population:** General

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## 304058 - Introduction to Chemistry and Physics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course serves as an introduction which integrates the basic concepts of chemistry and physics. Students learn how the physical and chemical properties of matter can be explained and predicted in terms of atomic and molecular structures and forces. They also learn how balanced and unbalanced forces influence the behavior of objects. This course provides the basic foundation for further study of chemistry or physics at a greater level of complexity than would be provided by an introductory physical science course.

**Content:** Intro to Chemistry and Physics

**Population:** General

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## 304070 - Dual Credit Physical Science

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A dual credit course for high school that offers advanced level experiences in the concepts found in the physical sciences. This course should include extended laboratory, field and literature investigations. In this course, students will refine their scientific inquiry skills as they collaboratively and independently apply their knowledge to the unifying themes chemistry, physics, or the earth sciences.

**Content:** Physical Science

**Population:** General

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## 304521 - Chemistry I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on problem solving techniques; bonding; equilibrium; equations. Students develop a conceptual understanding of chemistry content, included in the Program of Studies, through the use of scientific inquiry.

**Content:** Chemistry

**Population:** General

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## 304522 - Chemistry II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This college level course focuses on the study of the structure of matter, chemical kinetics, solution chemistry, and laboratory techniques.

**Content:** Chemistry

**Population:** General

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## 304523 - Pre IB Chemistry 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Chemistry.

**Content:** Chemistry

**Population:** General

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## 304524 - IB Chemistry 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Chemistry.

**Content:** Chemistry

**Population:** General

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## 304525 - IB Chemistry 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Chemistry.

**Content:** Chemistry

**Population:** General

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## 304526 - AP Chemistry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** AP Chemistry is the equivalent to a general Chemistry course usually taken in the first year of college. It is designed to comply with College Board recommendations to prepare students for an AP Exam in Chemistry. The course helps build students' understanding of the nature and reactivity of matter. The course begins with the structure of atoms, molecules, and ions; then students explore how that structure lets us predict and quantify the chemical reactions that substances undergo. AP Chemistry will enable you to develop an understanding of chemical concepts and become skilled at solving quantitative chemical problems through a combination of instructional activities. Suggested pre-requisites are Introduction to Chemistry and Algebra II. AP Chemistry is a full credit, two-semester course.

NOTE: If this course is to be used as a graduation requirement it must adhere to the content requirements of the Program of Studies.

**Content:** AP Chemistry

**Population:** General

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## 304527 - Honors Chemistry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course allows students to attain all the concepts contained in the description for Chemistry, with the opportunity provided for students to progress ahead of the non-honors course.

**Content:** Chemistry

**Population:** General

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## 304598 - Intro Chemistry with Earth/Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of Chemistry and Earth/Space Science through the use of scientific inquiry. They experience chemistry and Earth/space science concepts such as the structure of atoms, structure and properties of matter, chemical reactions, geochemical cycles, and formation and ongoing changes of the universe. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills. For this course, the suggested sequence is Introductory Physics with Earth/Space Science, Introductory Chemistry with Earth/Space Science, and Introductory Biology with Earth/Space Science.

**Content:** Chemistry

**Population:** General

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## 304599 - Special Topics: Chemistry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The content of this Chemistry course is determined by the teacher/student.

**Content:** Chemistry

**Population:** General

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## 304611 - Earth Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of Earth/space science, as outlined in Kentucky's Program of Studies, through the use of scientific inquiry. They experience Earth/space concepts such as energy in the Earth system, geochemical cycles, formation and ongoing changes of the Earth system, and formation and ongoing changes of the universe. A scientific inquiry approach uses concrete, hands-on experiences that require students to apply critical thinking skills. It is suggested that the physical science course be taken before either Earth/space science or life science.

**Content:** Earth-Space Science

**Population:** General

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## 304612 - Astronomy

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of basic astronomical principles, stars, planets, and galaxies.

**Content:** Astronomy

**Population:** General

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## 304613 - Meteorology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of weather, the atmosphere, clouds, and frontal weather conditions.

**Content:** Earth Science

**Population:** General

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## 304614 - Oceanography

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the study of ocean landscapes, waves, currents, ocean ecology, and estuaries.

**Content:** Oceanography

**Population:** General

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## 304620 - Environmental Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course addresses topics of environmental interest/impact such as water pollution, conservation, forestry and air pollution.

**Content:** Environmental Science

**Population:** General

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## 304621 - Honors Earth Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course allows students to attain all the concepts contained in the description for Earth/Space Science, with the opportunity provided for students to progress ahead of the non-honors course.

**Content:** Earth-Space Science

**Population:** General

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## 304622 - AP Environmental Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This AP course focuses on earth systems & resources, the living world, population, land & water use, energy resources and consumption, pollution and global change.

NOTE: If this course is to be used as a graduation requirement it must adhere to the content requirements of the Program of Studies.

**Content:** AP Environmental Science

**Population:** General

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## 304631 - Geology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Major concepts addressed in this course include erosion, glaciation, mountain formation, and diastrophism.

**Content:** Geology

**Population:** General

---

## 304698 - Principles of Technology with Earth/Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop understandings of traditional physics and Earth/space science concepts, as outlined in Kentucky's Program of Studies, through the use of scientific inquiry. Students investigate concepts of force, work, efficiency, rate, and energy. Hands-on inquiry experiences develop problem-solving and critical-thinking skills. Students apply conceptual understandings to industrial, technological, and personal situations. It is suggested that Principles of Technology with Earth/Space Science be taken before either Introductory Chemistry with Earth/Space Science or Introductory Biology with Earth/Space Science.

**Content:** Earth-Space Science

**Population:** General

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## 304699 - Special Topics: Earth/Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The content of this Earth/Space course is determined by the teacher/student.

**Content:** Earth-Space Science

**Population:** General

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## 304811 - Aerospace Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** In this course, students study conceptual ideas and understandings related to aerospace sciences.

**Content:** Physics

**Population:** General

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## 304821 - Physics I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of physics content through the use of scientific inquiry. They experience concepts such as motions and forces, conservation of energy and the increase in disorder, interactions of energy and matter. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills.

**Content:** Physics

**Population:** General

---

## 304823 - IB Physics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. The IB is a two year, highly academic program for juniors and seniors which can lead to their receiving first year course credit at many universities and colleges. Its internationally recognized curriculum provides able and ambitious students with a comprehensive background in Physics.

**Content:** Physics

**Population:** General

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## 304824 - Honors Physics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Honors Physics is a one-year high school course for students with career plans in science, math, engineering, medicine, and similar fields. This course provides a track for students who want to learn physics as a high level, but who are not interested in the full AP Physics B program. It is an appropriate choice for students interested in medical careers.

**Content:** AP Physics

**Population:** General

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## 304825 - AP Physics C: Mechanics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course ordinarily forms the first part of the college sequence that serves as the foundation in physics for students majoring in the physical sciences or engineering. The sequence is parallel to or preceded by mathematics courses that include calculus. Methods of calculus are used wherever appropriate in formulating physical principles and in applying them to physical problems. The sequence is more intensive and analytic than that in the B course. Strong emphasis is placed on solving a variety of challenging problems, some requiring calculus. The subject matter of the C course is principally mechanics and electricity

and magnetism, with approximately equal emphasis on these two areas. The C course is the first part of a sequence which in college is sometimes a very intensive one-year course but often extends over one and one-half to two years, with a laboratory component.

NOTE: If this course is to be used as a graduation requirement it must adhere to the content requirements of the Program of Studies.

**Content:** AP Physics

**Population:** General

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## 304826 - AP Physics C: Electricity/Magnetism

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course ordinarily forms the first part of the college sequence that serves as the foundation in physics for students majoring in the physical sciences or engineering. The sequence is parallel to or preceded by mathematics courses that include calculus. Methods of calculus are used wherever appropriate in formulating physical principles and in applying them to physical problems. The sequence is more intensive and analytic than that in the B course. Strong emphasis is placed on solving a variety of challenging problems, some requiring calculus. The subject matter of the C course is principally mechanics and electricity and magnetism, with approximately equal emphasis on these two areas. The C course is the first part of a sequence which in college is sometimes a very intensive one-year course but often extends over one and one-half to two years, with a laboratory component.

NOTE: If this course is to be used as a graduation requirement it must adhere to the content requirements of the Program of Studies.

**Content:** AP Physics

**Population:** General

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## 304828 - AP Physics 1: Algebra-Based

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This Advanced Placement (AP) course is the equivalent of a first-semester college course in algebra-based physics. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It will introduce electric circuits.

**Content:** AP Physics

**Population:** General

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## 304829 - AP Physics 2: Algebra-Based

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This Advanced Placement (AP) course is the equivalent to a second-semester college course in algebra-based physics. The course covers fluid mechanics; thermodynamics; electricity and magnetism; optics; atomic and nuclear physics.

**Content:** AP Physics

**Population:** General

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## 304890 - IB Design Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course code is applicable only to schools enrolled in the International Baccalaureate program. Design Technology is designed to teach students how to adapt to new experiences, and to

approach problems with the appropriate skills and techniques in design, as specified by the International Baccalaureate Organization.

**Content:** Principles of Technology (Applied Physics)

**Population:** General

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## 304898 - Intro Physics with Earth/Space Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students develop a conceptual understanding of physics and Earth/space science content through the use of scientific inquiry. They experience physics and Earth/space science concepts such as motions and forces, conservation of energy and the increase in disorder, interactions of energy and matter, and energy in the Earth system. A scientific inquiry approach uses concrete hands-on experiences that require students to apply critical thinking skills. For this course, the suggested sequence is Introductory Physics with Earth/Space Science, Introductory Chemistry with Earth/Space Science, and Introductory Biology with Earth/Space Science.

**Content:** Physics

**Population:** General

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## 304899 - Special Topics: Physics/Physics II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The content of this Physics course is determined by the teacher/student.

**Content:** Physics

**Population:** General

# **Pathway to Careers**

## **(320000)**

# Pathway to Careers - Pathway to Careers

## (320100)

Pathway to Careers is a program in career and technical education, which provides a continuum of career education experiences. Incorporated in the curriculum are basic concepts of human relations, life skills, overview of career clusters and work-based learning.

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### 320101 - Career Choices 6-8

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Career Choice is a program designed for middle school students and introduces them to a broad range of career opportunities in today's society. It includes assessment of student's aptitudes and abilities, interests and learning styles in order to assist them in identifying careers and planning a career path.

**Content:** Career Choices (Middle School)

**Population:** General

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### 320102 - Career Choices 9

**Grade Level:** 9 - 9

**Credits:** 1/2

**Description:** Career choice is a program in career and technical education designed for high school students and introduces them to a broad range of career opportunities in today's society. It includes assessment of student's aptitudes and abilities, interests and learning styles in order to assist them in identifying careers and planning a career path.

**Content:** Career Choices (Middle School)

**Population:** General

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### 320103 - Career Options-Level 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Career Options is a course in career and technical education at the secondary level focusing on orientation to careers. Course content includes orientation to 14 career clusters, employability skills self-management and work ethics. Opportunities are provided for development of problem solving, decision making and reasoning through school and work-based learning experience.

**Content:** Career Options (High School)

**Population:** General

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## 320104 - Career Networking-Level II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Career Networking is a second level course in career and technical education and provides opportunities for exploration of career clusters with an in-depth focus on two or more clusters. The curriculum includes a continuum of employability and computer skills needed in the workplace. Opportunities are provided for students to participate in internships in cluster interest areas. Upon completion of the course, the students have an opportunity to select a career major.

**Content:** Career Options (High School)

**Population:** General

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## 320105 - Career Work Experience-Level III

**Grade Level:** 11 - 11

**Credits:** 3

**Description:** Career Work Experience is a course in career and technical education at the secondary level focusing on a cooperative work experience for students in 11th and 12th grades. This course includes a related class and cooperative work experience in business and industry. (Career and Technical Education (CTE) class.)

**Content:** Career Options (High School)

**Population:** General

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## 320106 - Career Work Experience-Level IV

**Grade Level:** 12 - 12

**Credits:** 3

**Description:** Career Work Experience is a course in career and technical education at the secondary level focusing on a cooperative work experience for students in 11th and 12th grades. This course includes a related class and cooperative work experience in business and industry. (Career and Technical Education (CTE) class.)

**Content:** Career Options (High School)

**Population:** General

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## 320107 - Special Topics in Pathway to Careers

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** Instruction related to Pathway to Careers, but not included in program of studies

**Content:** Pathway to Careers

**Population:** General

# Multiple Pathway Career and Technical Education Courses (330000)

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## 331010 - Leadership Dynamics

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course in career and technical education is designed to assist students with developing skills needed to be successful leaders and responsible members of society. This student will develop personal attributes and social skills. Emphasis will be placed on interpersonal skills, team building, communication, personal development and leadership. This course will include opportunities for students to apply their knowledge.

**Content:** Leadership Dynamics

**Population:** General

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## 331020 - Principles of Teaching

**Grade Level:** 9 - 12

**Credits:** 1-3

**Description:** This course provides opportunities for students with an interest in teaching to develop skills, strategies, and techniques used for instruction at various grade levels. Instruction addresses the principles and procedures for promoting the physical, emotional, social, and intellectual development of children, adolescents and developmentally appropriate practices in educational settings. Students will gain work experience in classrooms with certified teachers as part of their course work. Other components include the development of a four-year post-secondary plan, salaries and benefits of a teacher, job security, and future projections of the job market. Leadership experiences will be provided through a Career & Technical Student Organization.

**NOTE: Teacher Certification requirements for this course: Must hold a Master's Degree with a valid teaching certificate plus 5 years teaching experience.**

**Content:** Principles of Teaching

**Population:** General

# **Health Related Activities**

## **(340000)**



# Health Related Activities - Health (340100)

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## 340133 - Health Education I

**Grade Level:** 9 - 12

**Credits:** 1/2

**Description:** Health I addresses the topics of mental health, drugs, alcohol and tobacco, sex education, sexually transmitted diseases, infectious diseases, safety and first aid, cardiopulmonary resuscitation, (CPR), nutrition, consumer health and non-infectious diseases.

**Content:** Health Education

**Population:** General

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## 340136 - 6th Grade Health

**Grade Level:** 6 - 6

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Health Education program in accordance with the Kentucky Core Academic Standards for Middle School (6th Grade) Health Education. The emphasis of this course is to teach students about making choices and decisions each day that promote an individual's physical well-being, the prevention of illness and disease, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy. This course should also emphasize nutritious foods are necessary for growth, development and maintenance of healthy bodies along with how safe behavior protects a person from danger and lessens the effects of harmful situations.

**Content:** Health Education

**Population:** General

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## 340137 - 7th Grade Health

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Health Education program in accordance with the Kentucky Core Academic Standards for Middle School (7th Grade) Health Education. The emphasis of this course is to teach students about making choices and decisions each day that promote an individual's physical well-being, the prevention of illness and disease, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy. This course should also emphasize how nutritious foods are necessary for growth, development and maintenance of healthy bodies along with how safe behavior protects a person from danger and lessens the effects of harmful situations.

**Content:** Health Education

**Population:** General

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## 340138 - 8th Grade Health

**Grade Level:** 8 - 8

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Health Education program in accordance with the Kentucky Core Academic Standards for Middle School (8th Grade) Health Education. The emphasis of this course is to teach students about making choices and decisions each day that promote an individual's physical well-being, the prevention of illness and disease, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy. This course should also emphasize how nutritious foods are necessary for growth, development and maintenance of healthy bodies along with how safe behavior protects a person from danger and lessens the effects of harmful situations.

**Content:** Health Education

**Population:** General

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## 340199 - Independent Study - Health

**Grade Level:** 9 - 12

**Credits:**

**Description:** Independent Study in health and physical education provides students an opportunity for in-depth study on a specific topic. Students must apply for and be accepted in independent study during the semester before scheduling the course.

**Content:** Health Education

**Population:** General

# Health Related Activities - Physical Education (340200)

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## 340214 - Conditioning Principles

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course emphasizes improvement in flexibility, strength, and endurance. Weight training fundamentals are included with safety highlighted throughout the course. Periodic assessments are made so students can see progress. ELECTIVE COURSE ONLY

**Content:** Physical Education

**Population:** General

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## 340215 - Aerobics

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course offers a variety of aerobic activities, some weight training and weight management. It also offers the students the opportunity to design their own exercise tape. ELECTIVE COURSE ONLY

**Content:** Physical Education

**Population:** General

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## 340216 - Physical Education I

**Grade Level:** 9 - 12

**Credits:** 1/2

**Description:** Physical Education I involves the teaching of lifetime leisure sports, individual sports and team sports. Skills learned will be reinforced and advanced skills will be introduced.

**Content:** Physical Education

**Population:** General

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## 340217 - Conditioning

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course offers the student the opportunity to improve overall physical fitness through aerobic and anaerobic training. Students will help set their own conditioning goals. ELECTIVE COURSE ONLY

**Content:** Physical Education

**Population:** General

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## 340218 - Advanced Sport Skills

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course offers students the opportunity to strengthen the specific skills of different sports including team and individual sports. ELECTIVE COURSE ONLY

**Content:** Physical Education

**Population:** General

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## 340219 - Physical Education II

**Grade Level:** 9 - 12

**Credits:**

**Description:** Physical Education II is designed for students who desire to develop advanced skills in selected games and sports including physical fitness, sports appreciation, angling and casting, self-defense, and golf. PREREQUISITE: Physical Education I NOTE: Individual schools may have entrance requirements for placement in Physical Education II.

**Content:** Physical Education

**Population:** General

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## 340220 - Advanced Physical Education III

**Grade Level:** 9 - 12

**Credits:**

**Description:** Advanced Physical Education III is designed for students who have a genuine desire to develop their interest and skills to an advanced level to enjoy the physical activities and to pursue a career interest. PREREQUISITE: Physical Education II NOTE: There are also entrance requirements for placement in Physical Education III.

**Content:** Physical Education

**Population:** General

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## 340221 - Gross Motor Development

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course is an elective course only, may not be used for initial credit. The course will focus on developing gross motor skills and strength of the large muscle groups.

**Content:** Physical Education

**Population:** General

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## 340222 - Conditioning/Court Sports

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course helps students understand athletic conditioning through weight training and various cardiovascular activities. Students are required to develop their own conditioning program and then apply it in the weight room. This course also includes some research and guest speakers. ELECTIVE COURSE ONLY

**Content:** Physical Education

**Population:** General

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## 340223 - Foundations of Sport and Exercise

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course gives students who are involved in athletics a chance to condition in the off season and learn about different aspects of sports such as officiating, nutrition, rules, athletic training and careers associated with athletics.

**Content:** Physical Education

**Population:** General

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## 340224 - Sports Across the World

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course introduces various sports to the student. All of these sports will be from different countries across the globe. A few of the sports included are cricket, team handball and squash.

**Content:** Physical Education

**Population:** General

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## 340225 - Aquatics

**Grade Level:** 9 - 12

**Credits:**

**Description:** Introduces students to the basic swimming skills, aquatic sports and exercise. Promotes personal safety in and around water by offering CPR and First Aid Training.

**Content:** Physical Education

**Population:** General

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## 340226 - 6th Grade Physical Education

**Grade Level:** 6 - 6

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education program in accordance with the Kentucky Core Academic Standards for Middle School (6th Grade) Physical Education. The emphasis of this course is to enhance the development of motor skills such as sequences and patterns and also enhance the development of psychomotor skills for increased social and cognitive skills. Students will also learn how physical activity contributes to optimal development of physical, mental, emotional and social health.

**Content:** Physical Education

**Population:** General

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## 340227 - 7th Grade Physical Education

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education program in accordance with the Kentucky Core Academic Standards for Middle School (7th Grade) Physical Education. The emphasis of this course is to use cognitive information to enhance the development of motor skills in order to be safer and more productive in recreation and work activities. Students will also learn how to become more responsible for their overall health by being physically activity and how regular physical activity strengthens physical, mental, emotional and social health.

**Content:** Physical Education

**Population:** General

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## 340228 - 8th Grade Physical Education

**Grade Level:** 8 - 8

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education program in accordance with the Kentucky Core Academic Standards for Middle School (8th Grade) Physical Education. The emphasis of this course is to enhance the development of motor skills and psychomotor skills to contribute to the development of social and cognitive skills. Student goals for this course will also include learning the physical, social, mental and emotional health benefits gained by being involved in regular physical activities.

**Content:** Physical Education

**Population:** General

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## 340231 - Tumbling

**Grade Level:** 9 - 12

**Credits:** 0

**Description:** This course is designed to teach students the principles of conditioning, strength and flexibility through tumbling and floor exercise. This course follows the Junior Olympic Developmental Program of the USA Gymnastics Association. It is designed for beginning levels through advanced floor routines.

**Content:** Physical Education

**Population:** General

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## 340233 - Parts and Systems: Your Body at Work

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course introduces students to the body systems, the body parts, and how they work. Malfunctions and diseases of the body will be included.

**Content:** Physical Education

**Population:** General

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## 340271 - Fitness and Weight Management

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course is designed to teach students how to gain weight, lose weight, trim, tone and become physically fit, as well as how to plan and eat a healthy diet.

**Content:** Physical Education

**Population:** General

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## 340281 - Emergency Procedures

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course focuses on potential emergency situations. It is designed to promote an understanding of standard precautions necessary for personal and professional health maintenance and infection control. Upon successful completion of the course, the student will have the opportunity for certification in First Aid and Cardiopulmonary Resuscitation.

**Content:** Health Science (CTE)

**Population:** General

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## 340287 - 6th Grade Integrated Health & Physical Education

**Grade Level:** 6 - 6

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education and Health Education program by combining the Kentucky Core Academic Standards for Middle School (6th Grade) Physical Education and Health Education into one course.

**Content:** Integrated Health and Physical Education (6-12)

**Population:** General

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## 340288 - 7th Grade Integrated Health & Physical Education

**Grade Level:** 7 - 7

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education and Health Education program by combining the Kentucky Core Academic Standards for Middle School (7th Grade) Physical Education and Health Education into one course.

**Content:** Integrated Health and Physical Education (6-12)

**Population:** General

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## 340289 - 8th Grade Integrated Health & Physical Education

**Grade Level:** 8 - 8

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education and Health Education program by combining the Kentucky Core Academic Standards for Middle School (8th Grade) Physical Education and Health Education into one course.

**Content:** Integrated Health and Physical Education (6-12)

**Population:** General

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## 340290 - High School Integrated Health & Physical Education

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A course providing insight into healthy living, including the structure and function of the human body, its systems, and the importance of physical fitness and sound nutrition. In addition, movement, sports and physical activity are used as central elements to foster active, healthy lifestyles and enhance the quality of life for the future.

**Content:** Integrated Health and Physical Education (6-12)

**Population:** General

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## 340299 - Independent Study - Physical Education

**Grade Level:** 9 - 12

**Credits:**

**Description:** Independent Study in health and physical education provides students an opportunity for in-depth study on a specific topic. Students must apply for and be accepted in independent study during the semester before scheduling the course. Acceptance into it

**Content:** Physical Education

**Population:** General



# **Social Studies**

## **(450000)**

# Social Studies - Middle (450100)

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## 450189 - Social Studies Grade 6 World Geography

**Grade Level:** 6 - 6

**Credits:** None

**Description:** Middle level social studies uses the five strands of social studies (historical perspective, geography, economics, government and civics, and culture and society) in an integrated program which focuses on a different grade-level context each year. Grade six includes world geography through an integrated social studies perspective composed of historical perspective, economics, government and civics, and culture and society. Regardless of the grade-level context, students use the five categories of social studies to explore the content.

**Content:** Geography

**Population:** General

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## 450190 - Social Studies Grade 7 World Civilization

**Grade Level:** 7 - 7

**Credits:** None

**Description:** Middle level social studies uses the five strands of social studies (historical perspective, geography, economics, government and civics, and culture and society) in an integrated program which focuses on a different grade-level context each year. Grade seven focuses on an integrated study of world history from the earliest civilizations to 1500. Regardless of the grade-level context, students use the five categories of social studies to explore the content.

**Content:** World Civilization

**Population:** General

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## 450191 - Social Studies Grade 8 American (U.S. History)

**Grade Level:** 8 - 8

**Credits:** None

**Description:** Middle level social studies uses the five strands of social studies (historical perspective, geography, economics, government and civics, and culture and society) in an integrated program which focuses on a different grade-level context each year. Grade eight covers the history of the United States from the early inhabitants to Reconstruction. Regardless of the grade-level context, students use the five categories of social studies to explore the content.

**Content:** U.S. History

**Population:** General

# Social Studies - Economics

## (450600)

A group of instructional programs that describe the transformation of limited resources into goods and services which, upon distribution, are again transformed by consumption to yield satisfaction of human wants.

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### 450601 - Economics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Economics is the study banks, profits, corporations, unions, money, GNP; consumer protection laws; American and other systems; personal income tax; production and distribution; scarcity and demand

**Content:** Economics

**Population:** General

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### 450605 - AP Macroeconomics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The purpose of an AP course in macroeconomics is to give students a thorough understanding of the principles of economics that apply to an economic system as a whole. Such a course places particular emphasis on the study of national income and price-level determination, and also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth, and international economics.

**Content:** Economics

**Population:** General

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### 450606 - AP Microeconomics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The purpose of an AP course in microeconomics is to give students a thorough understanding of the principles of economics that apply to the functions of individual decision makers, both consumers and producers, within the economic system. It places primary emphasis on the nature and functions of product markets, and includes the study of factor markets and of the role of government in promoting greater efficiency and equity in the economy.

**Content:** Economics

**Population:** General

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## 450616 - Applied Economics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Applied Economics is designed to offer students models for and practice in the using the elements of the economic understanding. It provides students with the necessary information for making rational economic choices in the three social roles: producers/workers, consumers, and citizens (the voter in the marketplace). Simulations and/or actual work situations may be used to provide practical experience with various economic conditions. An understanding of economic systems and policies is integral to the course.

**Content:** Economics

**Population:** General

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## 450680 - Living, Learning & Earning: Consumer Economics (KVHS)

**Grade Level:** 9 - 12

**Credits:** 1/2

**Description:** This course will prepare students with the information and decision-making skills they need to be successful consumers, business people, entrepreneurs, workers, citizens, and members of the global economy.

**Content:** Consumer Economics for Economics within Social Studies

**Population:** General

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## 450698 - International Economics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is to help students understand the basics of international trade and finance and the effects of various international economic policies on domestic and world welfare.

**Content:** Business Economics for Economics Credit within Social Studies

**Population:** General

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## 450699 - Business Economics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Business Economics emphasizes the fundamentals of economics and is designed to offer students models for and practice in using the elements of economic choices in three social roles: producer/workers, consumers, and citizens.

**Content:** Business Economics for Economics Credit within Social Studies

**Population:** General

# Social Studies - Geography

## (450700)

A group of instructional programs that describe the earth and its life; the description of land, sea, and air; and the distribution of plant and animal life, including human beings and industries.

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### 450707 - Physical Geography

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Physical Geography is the descriptive science dealing with the surface area of the earth including continents and countries, and the climate, plants, animals and natural resources of the various earth divisions.

**Content:** Geography

**Population:** General

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### 450709 - Human and Cultural Geography

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Human Geography is a discipline in which the concepts, generalizations, and facts derived from both social and physical sciences converge in the study of specific places and the people who inhabit them. Geography therefore, functions as a bridge linking the social and physical science. Geographers study the interrelations of humans and their environment, patterns of location of human activities, human beings themselves and their cultures and patterns of human variation: regional, national, and global, as well as variations among cultures.

**Content:** Human Geography

**Population:** General

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### 450712 - AP Human Geography

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The purpose of the AP Human Geography course is to introduce students to the systematic study of patterns and processes that have shaped human understanding, use, and alteration of Earth's surface. Students employ spatial concepts and landscape analysis to examine human social organization and its environmental consequences. They also learn about the methods and tools geographers use in their science and practice.

**Content:** AP World Geography

**Population:** General

# Social Studies - History

## (450800)

A group of instructional programs that describe the past, including the recording, gathering, criticizing, synthesizing, and interpreting evidence about past events.

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### 450809 - U.S. History Survey

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** U.S. History Survey is a basic overview of the history from colonial times to present; government institutions; applications to daily living. **Students may be required to complete the QualityCore U.S. History End-of-Course (EOC) exam upon completion of this course.**

**Content:** U.S. History

**Population:** General

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### 450812 - US History: Reconstruction to Present

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** United States History 2 is an overview of the history from Reconstruction through current events; American and world affairs. **Students taking this course are required to take the QualityCore End of Course (EOC) exam for U.S. History.**

**Content:** U.S. History

**Population:** General

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### 450814 - AP U.S. History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Advanced Placement covers U.S. History from colonization to present day; prominent historians, organizations; major policies; and theoretical foundations. College credit is earned with successful completion of AP exam. **Students taking this course are required to take the QualityCore End of Course (EOC) exam for U.S. History.**

**Content:** AP U.S. History

**Population:** General

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### 450835 - World History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** World History is a survey of the history of the world focusing on cultural and political aspects; ancient and modern history; the study of western and non-western civilizations; and current events.

**Content:** World History

**Population:** General

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## 450837 - World History, Modern

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Modern World History is a survey of; post renaissance; nations' development; wars.

**Content:** World History

**Population:** General

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## 450842 - Western Civilization, History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Western Civilization involves the study of European development and its effect on the rest of the world.

**Content:** World Civilization

**Population:** General

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## 450844 - AP European History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The study of European History since 1450 introduces students to cultural, economic, political, and social developments that played a fundamental role in shaping the world in which they live. In addition to providing a basic narrative of events and movements, the goals of AP European History are to develop (a) and understanding of some of the principal themes in modern European history, (b) an ability to analyze historical evidence and historical interpretation, and (c) an ability to express historical understanding in writing.

NOTE: Unless further supplemented to incorporate all five subdomains, this course does not fulfill the Program of Studies, and therefore cannot be used as one of the three social studies credits required for graduation.

**Content:** AP European History

**Population:** General

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## 450875 - Kentucky Studies

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The Kentucky Studies elective course brings together various elements of Kentucky Studies stressed in the earlier grades. The course focuses on the historical and cultural forces that have influenced the people and the institutions of the Commonwealth. The Kentucky Studies elective should give equal chronological coverage to Kentucky before and after the Civil War. It should stress the role of geography in the state's development and the importance of the regional variations across Kentucky. The customs of the people, their values, their folklore, and their family life should be examined in the context of such forces as agrarianism and urbanism. All of this should be done through the historical context, and should enhance the forces shaping government, politics and social change. Topics of study may be the arts, civil rights, communications, education, environment, labor history, religions, the sciences and transportation.

**Content:** Kentucky Studies

**Population:** General

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## 450876 - AP World History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Advanced Placement World History is a survey of the history of the world focusing on cultural and political aspects; ancient and modern history; the study of western and non-western civilizations; and current events. College credit earned with successful completion of the AP exam.

**Content:** World History

**Population:** General

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## 450877 - African American Studies

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** African American History will trace the historical, political, societal, economic and cultural issues from ancient Africa through the African American experience. Emphasis will be placed on contemporary issues facing African-Americans. This course is NOT a course requiring an End of Course (EOC) exam.

**Content:** U.S. History

**Population:** General

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## 450878 - Contemporary U.S. History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Contemporary U. S. History is a study of local, state and national government operations; economic issues; citizenship responsibilities; current events and historical origins; problem solving techniques. This course is NOT a course requiring an End of Course (EOC) exam.

**Content:** U.S. History

**Population:** General

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## 450879 - Advanced U.S. History

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Advanced U. S. History is an overview of the history from Reconstruction through current events; American and world affairs. **Students taking this course are required to take the QualityCore End of Course (EOC) exam for U.S. History.**

**Content:** U.S. History

**Population:** General



# Social Studies - Political Science and Government

## (451000)

A group of instructional programs that describe the description and analysis of political institutions and processes, including the origin, development, geographical units, forms, sources of authority, powers, purposes, functions, and operations of government.

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### 451001 - Civics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A Civics course is the study of citizenship, the responsibilities and government - introduction; federal, state and local government; organization and function.

**Content:** Civics

**Population:** General

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### 451002 - Civics and Civic Engagement

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A Civics course that will contain modules designed for the purpose of studying the structure and function of American democracy (as outlined in foundational documents) as it compares to other forms of government around the world. This course will also explore the role of American democracy in the global community and the role culture plays in shaping governments. This course uses modules designed by Kentucky teachers and is housed in Kentucky Virtual High School.

**Content:** Civics

**Population:** General

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### 451004 - American Government

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** American Government is the study of the United States, local, and other political systems; recruitment; roles and decision making; official duties; executive, legislative, and judicial government branches

**Content:** Civics

**Population:** General

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### 451029 - Political Science

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Political Science is the study of local, national, and foreign political processes.

**Content:** Political Science

**Population:** General

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## 451030 - AP United States Government and Politics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will give students an analytical perspective on government and politics in the United States. It includes both the study of general concepts used to interpret U.S. politics and the analysis of specific examples. It also requires familiarity with the various institutions, groups, beliefs, and ideas that constitute American politics.

**Content:** AP U.S. Government and Politics

**Population:** General

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## 451031 - Government and Civics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Government and Civics is the study of citizenship responsibilities and government - introduction; federal, state and local government; organization and function. It also covers the study of United States voting procedures; court operations; local, state and national lawmaking.

**Content:** Civics

**Population:** General

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## 451032 - AP Comparative Government and Politics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The AP course in Comparative Government and Politics introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of country settings.

**Content:** AP Government

**Population:** General

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## 451038 - Global Issues

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Global Issues is the study of persistent issues related to social, political, and economic facets of human behavior. This is an opportunity for the mature pupil to the concepts, skills, and tools of the social scientist and the humanist in some decision-making and problem-international concern. This should be more than a survey course in current events. Independently, pupils might pursue a new issue in considerable depth through comprehensive research and analysis. It would also be possible for the teacher to utilize this course to involve the students in some direct manner with community issues and problems. The student could identify with a practitioner who shares the concern or problem.

**Content:** Global Issues

**Population:** General

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## 451039 - Law and Justice

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Law and Justice is a study of law-civil, criminal, constitutional, and international; the legal and justice systems. Students will examine the need for rules and regulations; interpretations of the constitution, both state and federal; Supreme Court decisions; the Bill of Rights, and individual rights law, criminal law, family law, and consumer law. The study of the basic social contracts of society will enable students to understand the preferred democratic values: justice, equality, responsibility, freedom, rule of law, human rights, honesty, equity, rational process and human dignity.

**Content:** Law and Justice

**Population:** General

# Social Studies - Sociology

## (451100)

A group of instructional programs that describe human society, social institutions, and social relationships including the development, purposes, structures, and functions of human groups.

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### 451121 - Sociology, General

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Sociology is the scientific study of human society. It is concerned with the behavior of human beings in group situations. The study of sociology, therefore, consists of trying to understand: The basic units and institutions of social life, such as the family, schools, neighborhoods, rural and urban communities, and the many other kinds of groups with which humans identify. This group can include occupational, political, religious, ethnic, family, economic status, or ideology. The sociological perspectives focus on how those social relationships arise, why they persist, why antagonisms develop, and how they maintain social order to contribute to social change.

**Content:** Sociology

**Population:** General

# Social Studies - Social Sciences, other (459800)

This category of courses can cover a wide range of topics in social science.

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## 459801 - Integrated Social Studies

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Integrated Social Studies is an introductory survey of the various areas of social studies. It is designed to give the student exposure to different topics of social studies to prepare them for the more intensive studies that they will be participating in future courses.

**Content:** Social Studies

**Population:** General

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## 459803 - College Introductory Social And Behavioral Sciences

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course code should be used for dual credit social science introductory courses at the college level. In this course students should be able to demonstrate knowledge in at least one area of the social and behavioral sciences. They should be able to apply knowledge, theories and research methods on issues of personal and public importance and communicate effectively in the language of the discipline.

**Content:** Social Studies

**Population:** General

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## 459810 - Anthropology (KVHS)

**Grade Level:** 9 - 12

**Credits:** 1/2

**Description:** In this interactive course offered via the Web, students become familiar with their own culture, and they are introduced to cultures from around the world and from different periods in history. The course uses five Roots of Culture: Family, Land, Death, Identity, and Power to explore the similarities and differences in cultural roles in various times and places.

**Content:** Anthropology

**Population:** General

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## 459890 - Multi-Subject/Multi-Grade Social Studies

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is to be used for resource special education and alternative setting classrooms where students are receiving instruction in multiple content areas within the Social Studies core. The individualized content for each specific course taught under this umbrella course must meet the standards listed in this document. A highly qualified teacher is required. This course number should not be utilized when instruction is being provided related to one specific course.

**Students taking courses where an End Of Course (EOC) exam is required must be enrolled in a course with the appropriate EOC related state course code. This code cannot be used for EOC exam required content areas.**

Certification requirements are dependent upon the population being served.

**Content:** Social Studies

**Population:** Varies

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## **459899 - Independent Study - Social Studies**

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Independent Study in Social Studies provides students an opportunity for in-depth study on a specific topic. Students must apply for and be accepted in independent study during the semester before scheduling the course.

**Content:** Social Studies

**Population:** General

# Social Studies - Psychology

## (459900)

A group of instructional programs that study basic scientific theoretical principles of human behavior.

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### 459901 - Psychology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Psychology is an introduction to the basic scientific theoretical principles of individual human behavior. Students will be exposed to various topics in the field of psychology research.

**Content:** Psychology

**Population:** General

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### 459902 - AP Psychology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Advanced Placement Psychology is the scientific, theoretical principles of individual human behavior. Students will be exposed to various topics in the field of psychology research. College Credit earns upon successful completion of AP exam.

**Content:** AP Psychology

**Population:** General

# **Industrial Education**

## **(460000)**



# Industrial Education - Masonry (460100)

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## 460109 - Basic Bricklaying

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Demonstrate the proper and safe use of masonry tools and the various types of mortar and cement while laying block on the job site. The students will perform the skills used in bricklaying procedures; mixing mortar, use of the trowel, spreading mortar, making head/bed joints, laying masonry units.

Demonstrate the different methods of spacing materials, the 6-8-10 method, use of the transit level, brick spacing, on laying straight, plumb brick to the line, and the use of a modular rule. This course will also include 10 hours of safety training required to receive the OSHA 10 card.

**Content:** Masonry

**Population:** General

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## 460110 - Basic Blocklaying

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Demonstrate the proper and safe use of masonry tools and the various types of mortar and cement while laying block on the job site. The students will perform the skills used in blocklaying procedures; mixing mortar, use of the trowel, spreading mortar, making head/bed joints, laying masonry units. Demonstrate the different methods of spacing materials, the 6-8-10 method, use of the transit level, block spacing, on laying straight, plumb block to the line, and the use of a modular rule. This course will also include 10 hours of safety training required to receive the OSHA 10 card.

**Content:** Masonry

**Population:** General

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## 460112 - Introductory Masonry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The basic introductory course identifies various types of mortar and cement along with the use of basic masonry tools. The different methods of spacing materials on a construction site and the 6-8-10 method are emphasized, in addition to the use of the transit level, brick spacing, and modular rule. This course also focuses on laying straight and plumb brick to the line, as well as bricking gables and building columns. Setting up different types of masonry material, marking off layout lines, and erecting batter boards will be practiced, along with techniques employed in different types of weather and climates.

**Content:** Masonry

**Population:** General

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## 460113 - Advanced Masonry

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The advanced course provides experience in laying quoin corners, bricking in around electrical and plumbing units, and laying door and window brick sills. The student will construct expansion joints, piers, pilasters and retaining and split face block walls.

**Content:** Masonry

**Population:** General

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## 460114 - Residential Maintenance Masonry

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the basic aspects of masonry as it relates to the residential structure. Emphasis is placed on proper handling, mixing, placing, and finishing of Portland cement products.

**Content:** Masonry

**Population:** General

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## 460116 - Intermediate Masonry

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Builds on proficiency in competencies learned in MASE 105. Focuses on laying straight and plumb brick to the line, emphasizing bricking gables and building columns. Laboratory.

**Content:** Masonry

**Population:** General

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## 460117 - Anchors and Reinforcement

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course presents different types of reinforcement used in masonry units such as installing wall ties and reinforcing wire, tying intersecting walls with metal ties, installing masonry anchor bolts, setting and anchoring door and window frames, and setting steel lintels and bearing plates. Students will also install dovetail ties to concrete, set preformed masonry lintels, and lay paving brick in a herringbone pattern.

**Content:** Masonry

**Population:** General

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## 460118 - Fireplace Construction

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course presents different types and styles of indoor and outdoor fireplaces, and the principles of layout, drafting, and drawing a fireplace. Finishing dimensions of fireplace opening, firebox layout, setting the flue lining, and applying a chimney cap are also included.

**Content:** Masonry

**Population:** General

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## 460119 - Concrete Finishing

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The focus of this course is on the theory and techniques inherent in the art of concrete finishing.

**Content:** Masonry

**Population:** General

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## 460179 - Special Problems (Masonry)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed for the student who has demonstrated specific special needs.

**Content:** Masonry

**Population:** General

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## 460180 - Co-op (Masonry)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Masonry

**Population:** General

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## 460183 - Internship (Masonry)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Masonry

**Population:** General

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## 460199 - Special Topics - Masonry

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Masonry but not described in the above courses.

**Content:** Masonry

**Population:** General

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# Industrial Education - Construction

## Carpentry

### (460200)

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#### 460201 - Introduction to Construction Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is broad-based with emphasis on all phases of the construction process, including safety; legal and permitting requirements; site selection; excavation; foundation; utilities; framing and structural components; interior and exterior finishing. Topics also include: Tool and equipment selection, safety and use; preventive maintenance; materials inventory, waste management and prevention.

**Content:** Construction Technology for Industrial Ed. Credit

**Population:** General

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#### 460209 - Cabinet Construction and Installation

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Students will layout and plan the construction of base and wall cabinets. They will construct, sand, prepare wood surfaces for finishing, install cabinets and special units.

**Content:** Residential/Commercial Carpentry

**Population:** General

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#### 460212 - Floor and Wall Framing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The student will practice floor framing, layout, and construction of floor frames. Cutting and installing floor and wall framing members according to plans and specifications will also be practiced.

**Content:** Residential/Commercial Carpentry

**Population:** General

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#### 460213 - Ceiling and Roof Framing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course covers roof types and combinations of roof types used in the construction industry. The emphasis of this course is on layout, cutting and installing ceiling joists, rafters, roof decking, and roof coverings.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460214 - Site Layout and Foundations

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Students will prepare materials, calculate the cost for a building site, and lay out a site with a transit, locating property lines and corners. Students calculate the amount of concrete needed for footing and foundation walls and construct different types of foundations and forms.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460215 - Construction Technology for Industrial Education Credit

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Additional instructional programs that prepare individuals to apply technical knowledge and skills in the construction cluster of programs.

**Content:** Construction Technology for Industrial Ed. Credit

**Population:** General

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## 460217 - Construction Prints

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course will provide a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings, building materials and specifications lists, and construction dimensioning systems and charts/schedules.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460218 - Construction Forms

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will introduce the student to heavy and commercial construction. The student will receive information about rigging, wall forms, vertical piers and columns, grade curb forms, horizontal beam forms, above-grade slab systems, fireproof encasement forms, stair forms, bridge and bridge deck forms.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460219 - Exterior and Interior Finish

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course presents basic concepts of building trim, gypsum wallboard, paneling, base, ceiling and wall molding with instruction on acoustical ceilings and insulation, wood floors, tile, inlaid adhesive and tools of the flooring trade. This course will continue to refine the techniques and skills taught in the previous carpentry courses. In this course, cost control, speed, and precision are emphasized. In addition, students will perfect the skills associated with the exterior finishing of a house.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460220 - Residential Maintenance Carpentry

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the basic aspects of framing, roofing, window, door, and stair maintenance. The student will receive training in the proper use of ladders and in the handling and storage of building materials.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460222 - Residential Interior Maintenance

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the basic aspects of drywall hanging, finishing, and repair; painting; window, door, and floor moldings; laying composition and vinyl flooring; and maintaining ceramic tile.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460229 - Co-op (BAM)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Building and Apartment Maintenance

**Population:** General

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## 460232 - Internship (BAM)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Building and Apartment Maintenance

**Population:** General

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## 460241 - Introduction to Building & Apartment Maintenance

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course covers required safety practices in the shop and workplace; identification and use of hand tools used in the construction trades; identification of construction materials; interpretation of blueprints and/or drawings; and exposure to various mechanical and structural systems in a residential structure.

**Content:** Building and Apartment Maintenance

**Population:** General

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## 460242 - Co-op (Carpentry)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460245 - Internship (Carpentry)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Residential/Commercial Carpentry

**Population:** General

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## 460290 - Construction Trades, Other

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Additional instructional programs that prepare individuals to apply technical knowledge and skills in the building, inspecting, and maintaining of structures and related properties.

**Content:** Construction Technology for Industrial Ed. Credit

**Population:** General

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## 460298 - Special Topics (Construction Carpentry)

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education Construction Cluster but not described in the above courses.

**Content:** Construction Technology for Industrial Ed. Credit

**Population:** General

# Industrial Education - Electrical Technology (460300)

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## 460305 - Transformers

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Focuses on the operation, installation and application of AC single-phase and three-phase transformers. Testing and maintaining transformer equipment are emphasized, with safety integrated as a core component of the study.

**Content:** Electrical Technology

**Population:** General

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## 460311 - DC Circuits

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the theory of electricity and magnetism, and the relationship of voltage, current, resistance, and power in electrical circuits. Circuit analysis techniques are stressed. DC circuits are analyzed using Ohm's Law, Kirchoff's Laws, and various network theorems.

**Content:** Electrical Technology

**Population:** General

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## 460312 - Electrical Construction I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Involves the study of materials and procedures used in construction wiring.

**Content:** Electrical Technology

**Population:** General

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## 460313 - Electrical Construction II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Expands the knowledge and skills needed to work in commercial and industrial construction wiring.

**Content:** Electrical Technology

**Population:** General

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## 460316 - Circuits I

**Grade Level:** 10 - 12

**Credits:** 1.5

**Description:** Introduction to basic theory of DC and AC circuits, including circuit analysis techniques, introductory magnetism, and transformer principles.

**Content:** Electrical Technology

**Population:** General

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## 460319 - Circuits II

**Grade Level:** 10 - 12

**Credits:** 1.5

**Description:** Complex alternating current and direct current circuits. Emphasis is on impedance, reactance, power and electrical energy, electrical measurement instruments, and circuit analysis.

**Content:** Electrical Technology

**Population:** General

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## 460323 - Rotating Machinery

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Focuses on the underlying principles of rotating electrical equipment including DC and AC motors and generating equipment construction, operating applications, and the maintenance of DC and AC motors and generating equipment.

**Content:** Electrical Technology

**Population:** General

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## 460325 - Rotating Machinery Electrical Motor Controls

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course focuses on the construction, operation and maintenance of DC motors and generators and AC motors and alternators. This course addresses the diversity of control devices and applications used in industry today. Safety and electrical lockouts are also included.

**Content:** Electrical Technology

**Population:** General

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## 460329 - Basic Electricity for Non-Majors

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course introduces non-majors to the basic physics of electricity. Students apply Ohm's law; measure resistance, voltage, ohms, watts and amps; construct various types of electrical circuits; select wire and fuse sizes; and learn to troubleshoot an electric motor and coil.

**Content:** Electrical Technology

**Population:** General

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## 460331 - Electrical Motor Controls

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course addresses the diversity of control devices and applications used in industry today. Safety and electrical lockouts are also included.

**Content:** Electrical Technology

**Population:** General

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## 460333 - Residential Maintenance Wiring

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the basic aspects of electric theory, wire and cables, fixtures and devices, and troubleshooting and maintenance wiring.

**Content:** Electrical Technology

**Population:** General

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## 460339 - National Electrical Code

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Emphasizes the importance of the National Electrical Code as it applies to electrical installations: electrical safety issues, prevention of fire due to the use of electrical energy, prevention of loss of life and property from the hazards that might arise from the use of electrical energy, and proper selection of electrical equipment for hazardous and non-hazardous environments. A learning resource in the preparation for electrical licensing examinations.

**Content:** Electrical Technology

**Population:** General

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## 460340 - Sustainable Energy Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Examines the sustainability of various energy resources. An overview of energy technology, energy resources, and emerging future energy technologies coupled with our energy use will bring into context the strengths and weaknesses of different energy methodologies in developing a working concept of sustainable energy.

**Content:** Electrical Technology

**Population:** General

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## 460342 - Renewable Energy Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Examines the need for alternative and renewable energy resources as a survey course providing citizens from all walks of life an understanding for responsible stewardships of technologies that will contribute to the sustainability of energy in our present and future societies. The object of this course is to take a more in-depth look at renewable energy forms and the replacement of fossil fuels in our society. Through wind, solar, and biomass this class will focus on live projects and scientific studies and comparisons of feasibility.

**Content:** Electrical Technology

**Population:** General

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## 460344 - Renewable Energy Systems (Special Problems)

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** The object of this course is to take a more in-depth look at renewable energy forms and the replacement of fossil fuels in our society. Through scientific research methods, portfolio and presentations, students will focus on live projects, social energy issues problems and solutions using comparisons of feasibility.

**Content:** Electrical Technology

**Population:** General

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## 460345 - Co-op (Electrical)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Electrical Technology

**Population:** General

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## 460348 - Internship (Electrical)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Electrical Technology

**Population:** General

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## 460377 - Special Problems - Electrical Technology

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** A course designed for the student who has demonstrated specific special needs.

**Content:** Electrical Technology

**Population:** General

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## 460399 - Special Topics - Electrical Technology

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Electrical Technology but not described in the above courses.

**Content:** Electrical Technology

**Population:** General

# Industrial Education - Heavy Equipment (460400)

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## 460403 - Heavy Highway Construction Equipment Repair

**Grade Level:** 9 - 12

**Credits:** 1-5

**Description:** The maintenance of heavy highway equipment and the related studies in construction.

**Content:** Heavy Highway Construction

**Population:** General

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## 460404 - Heavy Equipment Operation

**Grade Level:** 9 - 12

**Credits:** 1-5

**Description:** The operation of heavy equipment and the related studies in construction.

**Content:** Heavy Equipment Operation

**Population:** General

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## 460499 - Special Topics - Heavy Equipment

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Heavy Equipment but not described in the above courses.

**Content:** Heavy Equipment Operation

**Population:** General

# Industrial Education - Plumbing Technology (460500)

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## 460511 - Introduction to Plumbing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the origin and basic principles of the plumbing industry. Also included is the orientation of methods associated with the plumbing industry.

**Content:** Plumbing Technology

**Population:** General

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## 460512 - Plumbing Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents a study of designing and sizing water distribution, drain, waste, and vent pipes, in addition to studies of code requirements and installation of common residential fixtures.

**Content:** Plumbing Technology

**Population:** General

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## 460513 - Basic Plumbing Skills

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to basic pipe joining techniques.

**Content:** Plumbing Technology

**Population:** General

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## 460514 - Bathroom Install

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will develop the skills necessary to rough-in and install a bathroom group and auxiliary fixtures for residential or commercial applications.

**Content:** Plumbing Technology

**Population:** General

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## 460515 - Kitchen Install

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will develop the skills necessary to rough in and install a kitchen group and laundry fixtures for residential and commercial applications.

**Content:** Plumbing Technology

**Population:** General

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## 460516 - Residential Maintenance Plumbing

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the basic aspects of clearing blocked drains, repairing leaks, repair and replacement of residential plumbing fixtures, and working with copper, plastic, and steel pipes.

**Content:** Plumbing Technology

**Population:** General

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## 460518 - Co-op I (Plumbing)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Plumbing Technology

**Population:** General

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## 460521 - Internship (Plumbing)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Plumbing Technology

**Population:** General

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## 460599 - Special Topics - Plumbing

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Plumbing Technology but not described in the above courses.

**Content:** Plumbing Technology

**Population:** General

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# **Industrial Education - Environmental Technology (460600)**



# Industrial Education - Mining Technology (460700)

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## 460701 - Mining Technology

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course provides specialized learning experiences in surface and underground mining. Knowledge and skills are developed in mine rescue techniques, dangers and recognition of mine gases, first aid applicable to mining injuries, and general mine safety. Underground and surface mining techniques will be developed through classroom instruction, use of simulators, guest speakers, field trips to mining locations, and visits to schools offering postsecondary education in Mining Technology. The highlight of the course is an opportunity for students to receive their initial mining certification for underground/surface mining with the provision that the teacher/trainer is a certified Kentucky Mining Instructor and students meet the qualifications for age requirements. Additional certification requirement: certification from KY Office of Mine Safety and Licensing as a certified Mining Instructor.

**Content:** Mining

**Population:** General

# Industrial Education - HVAC/ Air Conditioning Technology (460800)

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## 460801 - Heat Pump Application

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explains reverse cycle heating systems, defrost cycles, reversing valves, and auxiliary heating. This course will also concentrate on the line and control voltage circuitry pertaining to these units. ARI Controls: Subtopic E; Heat Pump Systems: Subtopics A and B; System Installation and Start-Up: Subtopic C; System Servicing and Troubleshooting: Subtopic E

**Content:** Air Conditioning Technology

**Population:** General

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## 460804 - Residential Energy Auditor Prep

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will provide step by step instruction and best practices involved in performing a residential energy audit. Ethics and customer relations, energy consumption and quality control inspecting. Building shell diagnosing, shell leakage, evaluating heating systems. Evaluation base load measures, windows, doors, and exterior insulation evaluations. Mobile homes and health and safety issues are also covered.

**Content:** Air Conditioning Technology

**Population:** General

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## 460806 - Green Awareness/Energy Management

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will instruct students in the areas of energy management and analysis, green heating, ventilation, air conditioning and refrigeration. It will also cover electrical generation and consumption as well as green plumbing.

**Content:** Air Conditioning Technology

**Population:** General

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## 460817 - HVAC Electricity

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces students to the basic physics of electricity. Students apply Ohm's law; measure resistance, voltage, ohms, watts and amps; construct various types of electrical circuits; select wire and fuse sizes; and learn to troubleshoot an electric motor and motor controls.

**Content:** Air Conditioning Technology

**Population:** General

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## 460818 - Residential HVAC Maintenance

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the basic aspects of maintaining various heating, ventilating, and air conditioning systems in residential buildings.

**Content:** Air Conditioning Technology

**Population:** General

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## 460820 - Heating and Humidification

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explains heating systems from simple fossil fuel furnaces through more complex systems. This course will also concentrate on the line and control voltage circuitry pertaining to these systems. ARI Controls: Subtopics A-C; Heating Systems: Subtopics A-C; System Installation and Start-Up: Subtopics A and B; System Servicing and Troubleshooting: Subtopic C; Tools and Equipment: Subtopic D

**Content:** Air Conditioning Technology

**Population:** General

---

## 460822 - Commercial Refrigeration

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Develops techniques for servicing and troubleshooting mechanical and electromechanical refrigeration components. Electrical and refrigeration safety are emphasized. Proper tool use and environmentally sound refrigerant handling are taught.

**Content:** Air Conditioning Technology

**Population:** General

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## 460824 - Cooling and Dehumidification

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Explains the working characteristics of air conditioning units with air and water cooled condensers. Line, low voltage and pneumatic controls will also be covered. ARI - Air Conditioning Systems: Subtopics A-E; System Installation and Start-Up: Subtopic D; System Servicing and Troubleshooting: Subtopic D; Controls: Subtopic D.

**Content:** Air Conditioning Technology

**Population:** General

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## 460826 - Electrical Components

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course defines the electrical components of an air conditioning system. Different types of line voltages, wiring diagrams, and solid-state devices are included. Safety is emphasized.

**Content:** Air Conditioning Technology

**Population:** General

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## 460828 - Refrigeration Fundamentals

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the fundamentals of refrigeration, refrigeration terms, and the basic refrigeration cycle. Proper use of tools, test equipment, and materials is stressed. Environmental issues including refrigerant handling are discussed. Refrigerant piping and methods used to join them are taught. General and specific safety is emphasized.

**Content:** Air Conditioning Technology

**Population:** General

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## 460845 - Ice Machines

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces the operation, checking, adjusting, and troubleshooting of commercial ice makers. The student will learn to adjust, check, clean, and troubleshoot commercial ice machines.

**Content:** Air Conditioning Technology

**Population:** General

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## 460846 - Journeyman Preparation

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** A series of lectures, discussions, and presentations pertaining to the proper application of HVAC codes. The class will help prepare the student to pass the Kentucky Journeyman HVAC licensing exam.

**Content:** Air Conditioning Technology

**Population:** General

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## 460847 - Sheet Metal Fabrication

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The student will learn to make patterns and lay out and construct common sheet metal duct fittings.

**Content:** Air Conditioning Technology

**Population:** General

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## 460877 - Special Problems (AIR COND)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides advanced experiences in the trade theories and practices appropriate for the occupational objectives of the student.

**Content:** Air Conditioning Technology

**Population:** General

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## 460880 - Co-op (Air Cond)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Air Conditioning Technology

**Population:** General

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## 460883 - Internship (Air Cond)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Air Conditioning Technology

**Population:** General

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## 460890 - Special Topics - HVAC

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - HVAC but not described in the above courses.

**Content:** Air Conditioning Technology

**Population:** General

# Industrial Education - Industrial Chemical Technology (460900)

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## 460902 - Basic Blueprint Reading

**Grade Level:** 9 - 12

**Credits:** 0.5

**Description:** This course presents basic applied math, lines, multiview drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Safety will be emphasized as an integral part of the course.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460910 - Introduction to Process Technology

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is intended to give an overview of chemical technology and the job content of various positions in the Chemical Industry. The student is given a basic understanding of all aspects of the chemical process industry.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460912 - Process Equipment and Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course continues to address the principles of equipment and systems used in the process system. It encompasses both rotary and stationary equipment. Students will operate pumps, heat exchangers, valves, electric motors, fluid systems, drier and distillation column.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460913 - Process Chemistry

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course deals specially with chemistry as it is practiced in industry. The student will learn basic chemistry principles, laboratory techniques, procedures for measurements and testing, conversions and accuracy, the periodic table and its significance, chemical equations and reactions, molecular structures, and naming conventions.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460915 - Chemical Technology Fundamentals

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to the technology used in chemical processing and testing. The student will learn about the fundamentals of pressure and fluid flow, temperature and heat flow, various unit operations and process equipment, measurement and control. The basic terminology of chemical technology and the procedures used by industry control operations such as safety procedures, record-keeping, standard operating procedures, and regulatory compliance are addressed. Emphasis is placed on developing good problem-solving and communication skills.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460916 - Chemical Technology Principles

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course continues to address the principles of chemical technology as practiced in the chemical industry. Students will develop a more complete understanding of the technology by operating bench scale process equipment and applying the knowledge they gain to situations and problems which they might encounter in industry. Teamwork and problem-solving will be emphasized, as will the applications for operating procedures and safety. The course will include the use of statistical techniques, such as SPC, and the current trends in process control.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460917 - Environmental Practices

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to current chemical industry practice relative to environmental, health and safety issues, and the regulatory requirements which they have to follow in dealing with these issues.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460918 - Industrial Chemical Safety

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The student will receive training in the safety practices common in industry. The role of OSHA in the workplace will be covered as will safety practices such as: Hazmat; Hazwoper; hazardous communications; electrical, machine, and chemical safety; confined space entry; lock-out/tag-out; blood borne pathogens; fire and noise protection; ladder and equipment safety; hand and power tool safety; and proper lifting techniques

**Content:** Industrial Chemical Technology

**Population:** General

---

---

## 460919 - Industrial Chemistry

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course deals specially with chemistry as it is practiced in industry. The student will learn basic chemistry principles, laboratory techniques, procedures for measurements and testing, conversions and accuracy, the periodic table and its significance, chemical equations and reactions, molecular structures, and naming conventions.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460923 - Introduction to Power Plant / Energy Systems

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Basic principles of industrial health and safety are discussed including accident and loss prevention, safety legislation, safety documents, safety management practices, health and safety hazards and control, safe work practices, and fire / explosion hazards. Corresponding field exercises will be performed as appropriate with participating industry representatives. Environmental regulations and their ultimate impact on a chemical facility as regulations will be discussed. An environmental audit will be performed in the field at participating local industries.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460925 - Chemical Technology Fundamentals - B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the student to the technology used in chemical processing and testing. The student will learn about the fundamentals of pressure and fluid flow, temperature and heat flow, various unit operations and process equipment, measurement and control. The basic terminology of chemical technology and the procedures used by industry control operations such as safety procedures, record-keeping, standard operating procedures, and regulatory compliance are addressed. Emphasis is placed on developing good problem-solving and communication skills.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460926 - Chemical Technology Principles - B

**Grade Level:** 10 - 12

**Credits:** 1.5

**Description:** This course continues to address the principles of chemical technology as practiced in the chemical industry. Students will develop a more complete understanding of the technology by operating bench scale process equipment and applying the knowledge they gain to situations and problems which they might encounter in industry. Teamwork and problem-solving will be emphasized, as will the applications for operating procedures and safety. The course will include the use of statistical techniques, such as SPC, and the current trends in process control.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460929 - Industrial Chemistry - B

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course deals specially with chemistry as it is practiced in industry. The student will learn basic chemistry principles, laboratory techniques, procedures for measurements and testing, conversions and accuracy, the periodic table and its significance, chemical equations and reactions, molecular structures, and naming conventions.

**Content:** Industrial Chemical Technology

**Population:** General

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## 460943 - Special Topics - Chemical Technology

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - Chemical Technology but not described in the above courses.

**Content:** Industrial Chemical Technology

**Population:** General

# Industrial Education - Public Services (461000)

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## 461011 - Basic Telecommunications

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is a study of basic emergency communications and of the federal and state laws that govern these communications; telephone and radio communications systems; communication documentation; emergency management; 911; stress and crisis management.

**Content:** Law Enforcement

**Population:** General

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## 461012 - Bloodborne Pathogens

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides bloodborne pathogens education for emergency responders, health professionals, and others who are subject to exposure, in the 1) transmission; 2) prevention and control; 3) treatment; 4) legal issues; and 5) attitudes and behavior regarding human infections, and covers requirements of OSHA 1910.1030.

**Content:** EMS Training

**Population:** General

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## 461013 - Emergency Management

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Commanding the Initial Response is designed to give the participant the information and skills necessary to establish command, perform size-up, develop and implement an action plan, transfer command, and organize an incident using an effective command system.

**Content:** Emergency Services

**Population:** General

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## 461014 - First Aid

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course addresses the knowledge and skills for administering the first aid including the assessment and treatment of patients sustaining injury or sudden illness until a higher level of trained emergency care technician arrives.

**Content:** EMS Training

**Population:** General

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## 461015 - Hazardous Materials Awareness

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to the principles of recognizing hazardous materials presence, protecting themselves from hazardous materials and calling for training/personnel, and securing the area safety.

**Content:** Fire Service Technology

**Population:** General

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## 461018 - Health and Well-Being for Law Enforcement

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** his course is designed to give the student an overview of personal fitness and wellness including how to maintain good physical fitness and proper nutrition. The course will also give the student an overview of the warning signs of and how to deal with stress in the law enforcement profession.

**Content:** Law Enforcement

**Population:** General

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## 461019 - Civil Law and Procedures

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to provide students with a comprehensive overview of civil law, both substantive and procedural. Critical case law analysis will be emphasized as an integral part of the course.

**Content:** Law Enforcement

**Population:** General

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## 461020 - Criminal Law and Procedures

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to provide students with an overview of criminal law, both substantive and procedural. Upon successful completion of this course, students will have acquired an understanding of the criminal prosecutorial process, while also learning the elements of individual crimes. In addition, students will have gained an appreciation for the balance of personal accountability with constitutionally-protected rights.

**Content:** Law Enforcement

**Population:** General

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## 461021 - CPR

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides the knowledge and skills for administering care for respiratory or cardiac arrest including airway, breathing, and circulation assessment and the procedures to eliminate blockage of the airway, provide breathing assistance, and cardiac compressions.

**Content:** EMS Training

**Population:** General

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## 461022 - Emergency Medical Technician (EMT)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This basic Emergency Medical Technician Course covers all knowledge aspects of trauma care as outlined by national standards, created by federal guidelines, considered to be the responsibilities of ambulance operations. Training involves typical anatomy and physiology; patient assessment; care for respiratory and cardiac emergencies; control of bleeding; application of dressing and bandages; treatment for traumatic shock; care for fractures, dislocation, sprains and strains; medical emergencies; emergency child birth; burns and heat emergencies; environmental emergencies; principles of vehicle rescue; transportation of patients and general operations of ambulance systems.

**Content:** EMS Training

**Population:** General

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## 461023 - EMS Training

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** Public Service Program that provides instruction in Emergency Medicine.

**Content:** EMS Training

**Population:** General

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## 461031 - Fire Safety

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Public Service Program that provides instruction in Fire Science

**Content:** Fire Service Technology

**Population:** General

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## 461032 - Firefighters Basic Skills I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course includes ropers, ladders, aircraft rescue, forcible entry, first aid, blood borne pathogens, and emergency disaster planning, and CPR.

**Content:** Fire Service Technology

**Population:** General

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## 461033 - Introduction to Fire Safety

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course includes fire department organization, fire behavior, firefighter safety, personal protective equipment, portable fire extinguishers, fire hose, appliance and streams.

**Content:** Fire Service Technology

**Population:** General

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## 461034 - Portable Fire Extinguishers

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Relates to the types, classification and use of fire extinguishers including the definitions utilized in rating each type and selection of a given extinguisher in attacking a particular class of fire.

**Content:** Fire Service Technology

**Population:** General

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## 461036 - Firefighters Intermediate Skills I

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course includes water supply, foam fire streams, fire alarms and communications, hazardous materials awareness, hazardous materials operations, sprinklers, and salvage and overhaul.

**Content:** Fire Service Technology

**Population:** General

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## 461037 - Correctional Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The function of custodial staff is examined with emphasis on the correctional officer. Institutional procedures are reviewed including reception, classification, program assignment and release procedures.

**Content:** Law Enforcement

**Population:** General

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## 461038 - Introduction to Homeland Security

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course focuses on security policy, planning and operations dedicated to the protection of U.S. territory, assets, infrastructure, institutions and citizens from external threats. Includes instruction in national security policy, government relations, intelligence, law enforcement, security technology, communications and information technology, homeland security planning and operations, disaster planning and applications to specific threat scenarios.

**Content:** Law Enforcement

**Population:** General

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## 461039 - Terrorism and Counterterrorism Operations

**Grade Level:** 10 - 12

**Credits:** .5

**Description:** This course focuses on the study of terrorism as a global and national threat and the methods for analyzing and countering it. Includes instruction in psychology, cultural studies, terrorist history and organization, terrorist capabilities, terrorist finance and international money-laundering, threat assessment, intelligence operations, incident command systems, border security, emergency response, joint operations, surveillance and communications systems, cyberterrorism, weapons of mass destruction, counterterrorist operations, and applications to specific terrorist organizations and threats.

**Content:** Law Enforcement

**Population:** General

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## 461040 - Critical Infrastructure Protection

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** A course focusing on the design, planning and management of systems and procedures for protecting critical national physical and cyber infrastructure from external threats, including terrorism. Includes instruction in homeland security policy, critical infrastructure policy, information security, matrix vulnerability assessment, threat assessment, physical security, personnel security, operational security, contingency planning, case analyses of specific industries and systems, redundancy planning, emergency and disaster planning, security systems, and intelligence operations.

**Content:** Law Enforcement

**Population:** General

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## 461042 - Basic Security Services

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course includes history and philosophy of security; nature and impact of security; an overview of security systems; concepts and skills for security officers; security applications; and security of the future.

**Content:** Law Enforcement

**Population:** General

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## 461043 - Criminal Investigation

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course includes investigative theory; collection and preservation of evidence, and sources of information; procedures for conducting interviews and interrogations; using forensic sciences; and preparing for cases and trials.

**Content:** Law Enforcement

**Population:** General

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## 461044 - Introduction to Criminal Justice

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course studies the history and philosophy of criminal justice, ethical considerations, definition of crime, the nature and impact of crime, an overview of the criminal justice system including law enforcement, corrections, and the court system.

**Content:** Law Enforcement

**Population:** General

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## 461045 - Law Enforcement

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course trains students to evaluate the powers granted to the police and restrictions placed upon them by respective constitutions and their amendments. Specific topics of discussion will include search and seizure, arrests, interviews, interrogations, and confessions in the context of criminal prosecution. Activities include tactics, methods, and skills utilized in the law enforcement field. Skills will be obtained in basic disaster response.

**Content:** Law Enforcement

**Population:** General

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## 461047 - Advanced Legal Practice

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Advanced Legal Practice is a project-based capstone course. Students will continue to develop their legal research, writing, and oral advocacy skills by working to resolve legal issues for mock clients.

**Content:** Law Enforcement

**Population:** General

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## 461048 - Alternative Dispute Resolution

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to provide students with a comprehensive overview of dispute resolution processes and techniques that act as a means for disagreeing parties to come to an agreement short of litigation. Upon successful completion of this course, students will have developed the skills necessary to participate in, and manage, a successful arbitration, mediation, and negotiation. Critical analysis and communication skills will be emphasized as an integral part of this course.

**Content:** Law Enforcement

**Population:** General

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## 461049 - Appellate Advocacy

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course focuses on appellate advocacy in both civil and criminal cases. After reviewing the principles of trial procedure and how these principles affect appellate work, students will examine the appellate process. Topics covered include the trial record, appellate briefing, oral argument, and application for discretionary appeal.

**Content:** Law Enforcement

**Population:** General

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## 461050 - Constitutional Law and Civil Rights

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course focuses on the U.S. Constitution and federal anti-discrimination laws. Topics covered include judicial review; the legal relationship between the federal government and states; the legal relationship between the branches of the federal government; and protection of individuals and organizations by the Bill of Rights, the Fourteenth Amendment, and federal anti-discrimination laws.

**Content:** Law Enforcement

**Population:** General

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## 461051 - Introduction to Law

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course studies the history, purpose, and function of law. Students will learn about law-related careers, study the major areas of law, gain an understanding of the court system, analyze case law, and study the adversary system.

**Content:** Law Enforcement

**Population:** General

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## 461052 - Trial Advocacy

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course focuses on trial advocacy in both civil and criminal cases. Topics covered include opening statement and closing argument, direct and cross examination, courtroom decorum, and evidence law. Additionally this course will prepare students for a competitive mock trial.

**Content:** Law Enforcement

**Population:** General

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## 461094 - Internship (Public Services/Protective Services)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Internship program do not receive compensation for their work. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. Prerequisite: Students may enroll in Internship only after successful completion of at least three courses in the pathway.

**Content:** Law Enforcement

**Population:** General

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## 461095 - Internship (Pre-Law)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Internship program do not receive compensation for their work. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screening. Prerequisite: Students may enroll in Internship only after successful completion of at least three courses in the Pre-Law Pathway.

**Content:** Law Enforcement

**Population:** General

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## 461096 - Co-op (Public Services/Protective Services)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. Prerequisite: Students may enroll in Co-op only after successful completion of at least three courses in the pathway.

**Content:** Law Enforcement

**Population:** General

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## 461097 - Co-op (Pre-Law)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work. Work-based learning is designed to complement the classroom instruction. Students will be required to follow program and agency requirements for attendance and health screenings. Prerequisite: Students may enroll in Co-op only after successful completion of at least three courses in the Pre-Law Pathway.

**Content:** Law Enforcement

**Population:** General

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## 461098 - Special Topics--Pre-Law

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Special Topics is an expanded course offering the study of current law and public safety issues. Topics may vary at the discretion of the instructor. Prerequisite: Students may enroll in Special Topics only after successful completion of at least three courses in the Pre-Law Pathway.

**Content:** Law Enforcement

**Population:** General

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## 461099 - Special Topics - Public Services/Protective Services

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Special Topics is an expanded course offering the study of current law and public safety issues. Topics may vary at the discretion of the instructor. Prerequisite: Students may enroll in Special Topics only after successful completion of at least three courses in the pathway.

**Content:** Emergency Services

**Population:** General

# Industrial Education - Industrial Electronics Technology (470100)

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## 470101 - Digital I

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Introduces digital logic methods. Topics include: Boolean algebra, combinational logic theory, sequential circuits, number systems and codes, and design and troubleshooting of digital logic circuits.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470102 - Digital I Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Application of digital logic methods. Topics include: Boolean algebra, combinational logic theory, sequential circuits, number systems and codes, and design and troubleshooting of digital logic circuits.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470115 - Devices and Circuits I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course combines theory and application in the study of semiconductor devices including: diodes, Zener diodes, bipolar junction transistors, field effect transistors, and circuits involved.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470116 - Digital Electronics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Develops an understanding of fundamental digital principles including logic gates, Boolean algebra, flip-flops, register, combinational and sequential logic circuits and basic digital design techniques.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470117 - DC Circuits

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the theory of electricity and magnetism, and the relationship of voltage, current, resistance, and power in electrical circuits. Circuit analysis techniques are stressed. DC circuits are analyzed using Ohm's Law, Kirchoff's Laws, and various network theorems.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470118 - AC Circuits

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The Alternating Current (AC) Circuits course is designed to develop an understanding of alternating current fundamentals and theory with emphasis on the study of reactance, resonance, RC, RL, RLC, transformers, phase angles and power factors. Students will apply formulas to analyze the operation of AC circuits.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470119 - Devices and Circuits II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Combines theory and applications in the study of operational amplifiers, oscillators, basic modulation circuitry, linear integrated circuits, thyristors, and regulated/switching power supplies.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470120 - Devices I Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Basic application of semi-conductor devices. Emphasis is on design, construction and troubleshooting of diode and transistor circuits, amplifiers and power supplies.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470125 - Devices II

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Emphasis is on thyristors, FETs, integrated circuits, and other devices as applied to audio frequency amplifiers, feedback circuits, modulators, detectors, and other basic electronic circuits.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470126 - Devices II Lab A

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Applies basic knowledge of thyristors, FETs, integrated circuits, and other devices as applied to audio frequency amplifiers, feedback circuits, modulators, detectors, and other basic electronic circuits.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470127 - Devices II Lab B

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Advanced application of theory related to thyristors, FETs, integrated circuits, and other devices as applied to audio frequency amplifiers, feedback circuits, modulators, detectors, and other basic electronic circuits.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470130 - Digital II

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Advanced digital logic methods. Topics include: small and medium scale integrated circuit logic families, interfacing techniques, arithmetic circuitry, programmable devices, and an introduction to microprocessors.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470131 - Digital II Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Application of advanced digital logic methods. Topics include: small and medium scale integrated circuits logic families, interfacing techniques, arithmetic circuitry, programmable devices, and an introduction to microprocessors.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470132 - Robotics and Industrial Automation

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Introduction to the theory of robots including terminology, components, and basic programming. Provides theory of serve and non-servo robots. Topics include robot types, controllers, manipulators, basic robotic programming, and fluid power systems. Provides basic theory of flexible and computer-integrated manufacturing and control systems.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470133 - Robotics and Industrial Automation Lab A

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This is a lab course to accompany ENGT 260.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470134 - Robotics and Industrial Automation Lab B

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This is a lab course to accompany ENGT 260.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470135 - Co-op I (Electronics)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Industrial Electronics Technology

**Population:** General

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## 470138 - Internship (Electronics)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Industrial Electronics Technology

**Population:** General

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## 470199 - Special Topics - Industrial Electronics

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Industrial Electronics but not described in the above courses.

**Content:** Industrial Electronics Technology

**Population:** General

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# Industrial Education - Major Appliance Repair (470200)

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## 470211 - Commercial Refrigeration

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Develops techniques for servicing and troubleshooting mechanical and electromechanical refrigeration components. Electrical and refrigeration safety are emphasized. Proper tool use and environmentally sound refrigerant handling are taught.

**Content:** Major Appliance Technology

**Population:** General

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## 470213 - Cooling and Dehumidification

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Explains the working characteristics of air conditioning units with air and water cooled condensers. Line, low voltage and pneumatic controls will also be covered. ARI - Air Conditioning Systems: Subtopics A-E; System Installation and Start-Up: Subtopic D; System Servicing and Troubleshooting: Subtopic D; Controls: Subtopic D.

**Content:** Major Appliance Technology

**Population:** General

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## 470215 - Electrical Components

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course defines the electrical components of an air conditioning system. Different types of line voltages, wiring diagrams, and solid-state devices are included. Safety is emphasized.

**Content:** Major Appliance Technology

**Population:** General

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## 470219 - Refrigeration Fundamentals

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the fundamentals of refrigeration, refrigeration terms, and the basic refrigeration cycle. Proper use of tools, test equipment, and materials is stressed. Environmental issues including refrigerant handling are discussed. Refrigerant piping and methods used to join them are taught. General and specific safety is emphasized.

**Content:** Major Appliance Technology

**Population:** General

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## 470221 - Special Topics - Major Appliance

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - Major Appliance Repair but not described in the above courses.

**Content:** Major Appliance Technology

**Population:** General

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## 470222 - Refrigeration Applications I

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** The materials and lectures in this course will provide an understanding of refrigeration safety, fundamentals, terminology, components, electrical systems, schematic reading and troubleshooting techniques, and refrigerant recovery.

**Content:** Major Appliance Technology

**Population:** General

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## 470223 - Refrigeration Applications Lab II for Major Appliances

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course offers repeated hands-on experience in refrigeration safety, refrigerant recovery, and mechanical and electrical troubleshooting with minimal supervision.

**Content:** Major Appliance Technology

**Population:** General

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## 470224 - Refrigeration Applications I Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course offers limited hands-on experience in refrigeration safety; installation procedures; hand tools and meter usage; brazing techniques using silver solder; access valves and process tube adapters; analyzing systems with manifold gauges; testing for leaks; changing oil in compressors; flushing sealed systems; checking and/or replacing compressors, condenser, filter driers, recharge system, defrost timers, heaters, hot gas defrost, capacitors, relays and overloads, refrigerant recovery; diagnosing electrical and mechanical malfunctions, schematic reading, and troubleshooting techniques.

**Content:** Major Appliance Technology

**Population:** General

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## 470230 - Gas and Electric Dryers

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** The materials and lectures in this course will provide an understanding of safety, fundamentals, theory, terminology, schematic reading, and troubleshooting techniques for gas and electric dryers.

**Content:** Major Appliance Technology

**Population:** General



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## 470231 - Gas and Electric Dryers Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course offers repeated hands-on experiences in dryer safety, installation procedures, hand tools and meter usage, switches, thermostats, belts, blowers, heating elements, gas valves and controls, venting, bearings, diagnosing mechanical and electrical malfunctions, door switches, motors and centrifugal switches, schematic reading and troubleshooting techniques.

**Content:** Major Appliance Technology

**Population:** General

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## 470232 - Gas and Electric Ranges

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** The materials and lectures in this course will provide an understanding of gas and electric range safety, fundamentals, theory, terminology, controls, valves, heating elements, schematic reading and troubleshooting techniques, baking, cooking, and cleaning problems.

**Content:** Major Appliance Technology

**Population:** General

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## 470233 - Gas and Electric Ranges Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course offers repeated hands-on experience in range safety, installation procedures, hand tool and meter usage, heating elements, gas pressures, surface units and switches, thermostats, timers, range doors, self-cleaning ovens, ignition systems, pilots, burners, valves, diagnosing mechanical and electrical malfunctions, schematic reading and troubleshooting techniques.

**Content:** Major Appliance Technology

**Population:** General

# Industrial Education - Industrial Maintenance Technology (470300)

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## 470301 - Shop Management

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Introduces the basic principles of sound and efficient shop management. Inventory control, fiscal management, and customer relations are emphasized.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470303 - Industrial Maintenance Rotating Machinery

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course focuses on the construction, operation and maintenance of DC and AC motors.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470304 - Industrial Maintenance Rotating Machinery Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Provides practical experience in the construction, operation and maintenance of AC motors and alternators, and DC motors and generators.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470305 - Co-op I (Ind Maint)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470308 - Internship (Ind Maint)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470311 - Applied Machining I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Consists of intermediate level skills using machining machines and surface grinders. It will include the selection of grinding wheels. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced and properties of metals are discussed.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470312 - Applied Machining II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Carries the student to higher levels in the operation of machine tools. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced, and properties of metals are discussed.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470313 - Fundamentals of Machine Tools-A (For Maintenance)

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills, and lathes.

**Content:** Machine Tool Technology for Maintenance

**Population:** General

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## 470314 - Fundamentals of Machine Tools-B (For Maintenance)

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** This course provides intermediate skill development in machine tool technology. The course builds on basic skills developed in MTT 110, especially in the calculation of safe cutting speed and feed rates for the drill press, power saw, mills, and lathes. Shop safety, benchwork, and precision measurement are also emphasized.

**Content:** Machine Tool Technology for Maintenance

**Population:** General

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## 470316 - Advanced Hydraulic Systems

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The advanced hydraulic systems class will cover design, repair, and troubleshooting of hydraulic systems.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470318 - Maintaining Industrial Equipment I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to introduce the student to maintenance techniques and procedures used to maintain industrial equipment.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470321 - Fluid Power

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is a study of fluid power theory, component identification and application, schematic reading, and basic calculations related to pneumatic and hydraulic systems and their operations.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470322 - Industrial Maintenance Electrical Principles

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the theory of electricity and magnetism and the relationship of voltage, current, resistance, and power in electrical circuits. The course is designed to develop an understanding of alternating and direct current fundamentals. Students will apply formulas to analyze the operation of AC and DC circuits.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470326 - Advanced Pneumatic Systems

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Design, repair, and troubleshooting of pneumatic systems will be covered in this course. Lecture.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470328 - Welding for Maintenance

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will provide basic instruction needed for student to weld using SMAW, MIG, TIG and Oxy-Fuel.

**Content:** Welding for Maintenance

**Population:** General

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## 470330 - Industrial Maintenance of PLC's

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course includes the theory of Programmable Logic Controllers to include installation, programming, interfacing, and troubleshooting PLC's.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470333 - Motor Control Concepts (IMT)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Verifies knowledge of basic theory by making measurements in working AC and DC circuits. Various types of circuits are constructed and their parameters measured. The use of test equipment, safety, and troubleshooting are stressed. This lab course also provides practical experience in the construction, operation, and maintenance of AC and DC motors.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470336 - Special Topics - Industrial Maintenance Technology

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - Industrial Maintenance Technology but not described in the above courses.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470348 - Industrial Maintenance Electrical Motor Controls

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course addresses the diversity of electric motor control devices and applications used in industry today with safety and electrical lockouts included.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470349 - Refrigeration Fundamentals (For Maintenance)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the fundamentals of refrigeration, refrigeration terms, and the basic refrigeration cycle. Proper use of tools, test equipment, and materials is stressed. Environmental issues including refrigerant handling are discussed. Refrigerant piping and methods used to join them are taught. General and specific safety is emphasized.

**Content:** HVAC for Maintenance

**Population:** General

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## 470351 - Robotics and Automation (For Maintenance)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Introduction to the theory of robots including terminology, components, and basic programming. Provides theory of serve and non-servo robots. Topics include robot types, controllers, manipulators, basic robotic programming, and fluid power systems. Provides basic theory of flexible and computer-integrated manufacturing and control systems.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 470354 - Shielded Metal Arc Welding (For Maintenance)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Teaches students the identification, inspection, and maintenance of SMAW electrodes; principles of SMAW; the effects of variables on the SMAW process to weld plate and pipe; and metallurgy.

**Content:** Welding for Maintenance

**Population:** General

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## 470358 - Electrical Components (Ind. Maint.)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course defines the electrical components of an air conditioning system. Different types of line voltages, wiring diagrams, and solid-state devices are included. Safety is emphasized.

**Content:** HVAC for Maintenance

**Population:** General

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## 470360 - Applied Machining I (for Industrial Maint.)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course consists of intermediate level skills using machining machines and surface grinders. It will include the selection of grinding wheels. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced and properties of metals are discussed.

**Content:** Machine Tool Technology for Maintenance

**Population:** General

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## 470361 - Cooling and Humidification (for Industrial Maint.)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Explains the working characteristics of air conditioning units with air and water cooled condensers. Line, low voltage and pneumatic controls will also be covered. ARI - Air Conditioning Systems: Subtopics A-E; System Installation and Start-Up: Subtopic D; System Servicing and Troubleshooting: Subtopic D; Controls: Subtopic D.

**Content:** HVAC for Maintenance

**Population:** General

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## 470363 - Heating and Humidification (for Industrial Maint.)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Explains heating systems from simple fossil fuel furnaces through more complex systems. This course will also concentrate on the line and control voltage circuitry pertaining to these systems. ARI Controls: Subtopics A-C; Heating Systems: Subtopics A-C; System Installation and Start-Up: Subtopics A and B; System Servicing and Troubleshooting: Subtopic C; Tools and Equipment: Subtopic D

**Content:** HVAC for Maintenance

**Population:** General

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## 470365 - HVAC Electricity (for Industrial Maint.)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course defines the electrical components of an air conditioning system. Different types of line voltages, wiring diagrams, and solid-state devices are included. Safety is emphasized.

**Content:** HVAC for Maintenance

**Population:** General

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## 470367 - Gas Metal Welding (Ind. Maint.)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to teach students the identification, inspection, and maintenance of GMAW machines; identification, selection and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW and SAW and metallurgy are also included.

**Content:** Welding for Maintenance

**Population:** General

# Industrial Education - Diesel Technology (470400)

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## 470403 - Preventive Maintenance Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course provides the student with instruction on preventive maintenance practices, scheduled procedures, documents, DOT-required record system, and determining the needs for repair. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required in the performance of each task; 2. This instruction includes identification and use of the appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry resources (paper and electronic formats).

**Content:** Diesel Technology

**Population:** General

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## 470404 - Diesel Technology

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** This program focuses on the skills needed to analyze malfunctions and repair, build and maintain construction equipment, farm equipment, or medium and heavy trucks. This program includes climate control, computer fundamentals, mechanical concepts, introduction to diesel engines, and introduction to maintenance welding. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.

**Content:** Diesel Technology

**Population:** General

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## 470405 - Basic Equipment Operation for Mechanics

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to give diesel technology students, who are seeking the construction equipment mechanic track, the basic operation of various types of heavy equipment. This class gives the student the skills needed to operate heavy equipment to the level that allows them to diagnose mechanical and other operational problems of the equipment. \*\*\* (This course is a prerequisite for the Construction Equipment Technician diploma program at Hazard Technical College and CVTC - Middlesboro Campus.)

**Content:** Diesel Technology

**Population:** General

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## 470406 - Mechanical Concepts

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course introduces the student to the basic fundamentals of precision measurement and its application to the industrial setting.

**Content:** Diesel Technology

**Population:** General

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## 470411 - Commercial and Recreational Small Engine Technology/Marine Technology

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** This course will focus on the student's practical information about lawn equipment, light commercial, marine and /or motorcycle engine construction, operation, lubrication, maintenance, troubleshooting, service, rebuilding, and repair. Leadership and professionalism will be developed through SkillsUSA and the Professional Development Program.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470420 - Introduction to Maintenance Welding

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course provides training in the identification, inspection, and maintenance of welding electrodes. Training will be given in the principles and processes of welding plates and pipes. Instruction will be given in lab safety and basic oxy fuel cutting.

**Content:** Diesel Technology

**Population:** General

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## 470421 - Introduction To Diesel Engines

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the fundamental concepts of the operation of two- and four-stroke diesel and gasoline engines. Topics included are basic engine components and their functions, engine performance terminology, two-and four-stroke operation, combustion principles, and engine disassembly with basic hand tools.

**Content:** Diesel Technology

**Population:** General

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## 470422 - Brakes

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the theory and operation of air and hydraulic braking systems. This will include components such as: air and hydraulic actuators, air brake chambers, disc drums, linings, and brake adjustments. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required in the performance of each task; 2. This instruction includes identification and use of the appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry resources (paper and electronic formats).

**Content:** Diesel Technology

**Population:** General

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## 470423 - Diesel Engine Repair

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides a series of lectures and demonstrations on the fundamentals of engine repair, troubleshooting, and engine operation and maintenance.

**Content:** Diesel Technology

**Population:** General

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## 470424 - Steering and Suspension (Diesel)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** The theory and operation of steering and suspension systems are presented including manual steering, power steering, springs and supports, steering linkage and alignment.

**Content:** Diesel Technology

**Population:** General

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## 470425 - Electrical System for Diesel Equipment

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to the principles, theories, and concepts of the automotive electrical system that include the unique diagramming, coding and locating of wiring, and component devices.

**Content:** Diesel Technology

**Population:** General

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## 470426 - Hydraulics (Diesel)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the theory and operation of a complete hydraulic system including all components. Components include: fluids, piping, reservoirs, actuators, directional valves, servo valves, pressure control valves, pumps, complete hydraulic circuits and accessories. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required in the performance of each task; 2. This instruction includes identification and use of the appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry resources (paper and electronic formats).

**Content:** Diesel Technology

**Population:** General

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## 470427 - Power Train (Diesel)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course emphasizes the theory and principles of the power train systems. Students learn to diagnose and repair components, such as: clutches, drive lines, propeller shafts, differentials, and final drives. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required in the performance of each task; 2. This instruction includes identification and use of the appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry resources (paper and electronic formats).

**Content:** Diesel Technology

**Population:** General

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## 470428 - Powertrain for Construction Equipment

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Students learn the theory and principles of the operation of power transmissions. They learn to diagnose and repair power train units including torque connectors, standard and automatic transmissions.

**Content:** Diesel Technology

**Population:** General

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## 470429 - Undercarriage

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Students learn the theory and operation of undercarriage systems and their components. These components include endless track, roller track, roller frames, idlers, roller supports, and mainframes.

**Content:** Diesel Technology

**Population:** General

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## 470432 - Introduction to Maintenance Welding Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course provides laboratory experiences in which students acquire the manipulative skills needed to weld surface, fillet, and groove welds in flat and horizontal positions. The studies will perform oxy fuel cutting operations.

**Content:** Diesel Technology

**Population:** General

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## 470433 - Undercarriage Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course provides opportunities to troubleshoot and repair some parts of undercarriage systems and their components. These components include endless track, roller track, roller frames, idlers, roller supports, and mainframes.

**Content:** Diesel Technology

**Population:** General

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## 470436 - Powertrain for Construction Equipment Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Students troubleshoot, disassemble, evaluate parts, and reassemble components of a power train system, such as torque connectors, standard and automatic transmissions, and drive lines.

**Content:** Diesel Technology

**Population:** General

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## 470438 - Climate Control (Diesel)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the theory and operation of heating and air conditioning systems. Air conditioning terminology and how to service and troubleshoot mechanical and electrical circuits of heating and air conditioning systems as emphasized. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required in the performance of each task 2. This instruction includes identification and use of the appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry resources (paper and electronic formats).

**Content:** Diesel Technology

**Population:** General

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## 470442 - Co-op I (Diesel)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Diesel Technology

**Population:** General

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## 470445 - Diesel/Medium Heavy Truck Internship I

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Diesel Technology

**Population:** General

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## 470477 - Special Problems I (Diesel)

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Diesel/Medium Heavy Duty Truck Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Diesel Technology

**Population:** General

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## 470478 - Special Problems II (Diesel)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Diesel/Medium Heavy Duty Truck Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Diesel Technology

**Population:** General

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## 470479 - Special Problems III (Diesel)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Diesel/Medium Heavy Duty Truck Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Diesel Technology

**Population:** General

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## 470499 - Special Topics - Diesel Technology

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Diesel Technology but not described in the above courses.

**Content:** Diesel Technology

**Population:** General

# Industrial Education - Automotive Technology

## (470500)

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### 470501 - Co-op I (Auto)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Automotive Technology

**Population:** General

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### 470504 - Automotive Internship I

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Automotive Technology

**Population:** General

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### 470507 - Automotive Maintenance & Light Repair Section A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders.

**Content:** Automotive Technology

**Population:** General

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## 470509 - Automotive Maintenance & Light Repair Section B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders.

**Content:** Automotive Technology

**Population:** General

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## 470511 - Automotive Maintenance & Light Repair Section C

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders.

**Content:** Automotive Technology

**Population:** General

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## 470513 - Automotive Maintenance & Light Repair Section D

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders.

**Content:** Automotive Technology

**Population:** General

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## 470515 - Automobile Service Technology Section A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses present the theory, component identification, operation, diagnosis, and the service and repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also locate and use current reference and training materials from accepted industry publications and resources, and write industry standard work orders.

**Content:** Automotive Technology

**Population:** General

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## 470517 - Automobile Service Technology Section B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses present the theory, component identification, operation, diagnosis, and the service and repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also locate and use current reference and training materials from accepted industry publications and resources, and write industry standard work orders.

**Content:** Automotive Technology

**Population:** General

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## 470519 - Automobile Service Technology Section C

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses present the theory, component identification, operation, diagnosis, and the service and repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also locate and use current reference and training materials from accepted industry publications and resources, and write industry standard work orders.

**Content:** Automotive Technology

**Population:** General

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## 470521 - Automobile Service Technology Section D

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** These courses present the theory, component identification, operation, diagnosis, and the service and repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also locate and use current reference and training materials from accepted industry publications and resources, and write industry standard work orders.

**Content:** Automotive Technology

**Population:** General

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## 470523 - Master Automobile Service Technology Section A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This advanced automotive course presents the theory, component identification, operation, diagnosis, and the service and repair of Engines and Engine Systems, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also locate and use current reference and training materials from accepted industry publications and resources, and write industry standard work orders which include information regarding problem resolution and the results of the work performed. NOTE: Master Automobile Service Technology Section A is NOT a pre-requisite for Master Automobile Service Technology Section B. Either section can be taken first. The necessary pre-requisites for the Master Automobile Service Technology Courses are all sections of the Automotive Maintenance and Light Repair Courses, and all sections of the Automobile Service Technology Courses.

**Content:** Automotive Technology

**Population:** General

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## 470525 - Master Automobile Service Technology Section B

**Grade Level:** 12 - 12

**Credits:** 1

**Description:** This advanced automotive course presents the theory, component identification, operation, diagnosis, and the service and repair of Engines and Engine Systems, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also locate and use current reference and training materials from accepted industry publications and resources, and write industry standard work orders which include information regarding problem resolution and the results of the work performed. NOTE: Master Automobile Service Technology Section A is NOT a pre-requisite for Master Automobile Service Technology Section B. Either section can be taken first. The necessary pre-requisites for the Master Automobile Service Technology Courses are all sections of the Automotive Maintenance and Light Repair Courses, and all sections of the Automobile Service Technology Courses.

**Content:** Automotive Technology

**Population:** General

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## 470545 - Carburetors and Fuel Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** The student will be able to identify parts of a motorcycle carburetor and discuss the components and operations of various carburetor circuits. The student will also be able to remove, clean, and install a carburetor and remove, clean, and install a fuel valve.

**Content:** Automotive Technology

**Population:** General

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## 470546 - Precision Measurement

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This class introduces the student to the basic fundamentals of precision measurement and its application in the industrial setting.

**Content:** Automotive Technology

**Population:** General

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## 470547 - AC Climate Control

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the theory and operation of heating and air conditioning systems. Air conditioning terminology and how to service and troubleshoot mechanical and electrical circuits of heating and air conditioning systems are emphasized.

**Content:** Automotive Technology

**Population:** General

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## 470549 - Basic Fuel and Ignition Systems

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course presents the theory, component identification, application, operation, and the service and repair of the basic automotive ignition, fuel, and emission systems, including related components. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required for performing each task; 2. The instruction has included identification and use of appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry publications and resources; 4. In all areas, the student has demonstrated the ability to write work orders and warranty reports, to include information regarding problem resolution and the results of the work performed for the customer and manufacturer. The writing process will incorporate the "Three C's" (concern, cause and correction) as a format to communicate this information.

**Content:** Automotive Technology

**Population:** General

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## 470550 - Brake Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the theory and operation of air and hydraulic braking systems. This will include components such as: air and hydraulic actuators, air brake chambers, disc drums, linings, and brake adjustments

**Content:** Automotive Technology

**Population:** General

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## 470553 - Suspension and Steering

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents the automotive suspension system, the diagnosing of suspension problems, identifying components, recognizing tire wear problems, wheel balancing, and the use of alignment equipment.

**Content:** Automotive Technology

**Population:** General

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## 470556 - Basic Automotive Electricity

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to the principles, theories, and concepts of the automotive electrical system that include the unique diagramming, coding and locating of wiring, and component devices.

**Content:** Automotive Technology

**Population:** General

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## 470558 - Basic Fuel and Ignition Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents the theory, component identification, application, operation, and the service and repair of the basic automotive ignition, fuel, and emission systems, including related components.

**Content:** Automotive Technology

**Population:** General

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## 470560 - Computer Control Systems and Diagnosis

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents the comprehensive diagnostics of on-board computer control systems, including distributorless ignition systems. The problem solving process, including flow chart reading, will be presented.

**Content:** Automotive Technology

**Population:** General

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## 470562 - Electrical Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course focuses on the theory and principles relating to automotive electrical/electronic components.

**Content:** Automotive Technology

**Population:** General

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## 470564 - Emission Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents the theory, component identification, application, operation, and the service and repair of advanced automotive ignition, fuel, and emission systems, including related components.

**Content:** Automotive Technology

**Population:** General

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## 470566 - Special Topics - Automotive Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Instruction related to Industrial Education - Automotive Technology but not described in the above courses.

**Content:** Automotive Technology

**Population:** General

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## 470570 - Automatic Transmission/Transaxle

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course involves the study of the operating principles of rear and front wheel drive automatic transmissions and transaxles, and the testing and diagnostic process. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required for performing each task; 2. The instruction has included identification and use of appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry publications and resources; 4. In all areas, the student has demonstrated the ability to write work orders and warranty reports, to include information regarding problem resolution and the results of the work performed for the customer and manufacturer. The writing process will incorporate the "Three C's" (concern, cause and correction) as a format to communicate this information.

**Content:** Automotive Technology

**Population:** General

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## 470577 - Automotive Special Problems I

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Automotive Technology Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Automotive Technology

**Population:** General

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## 470578 - Automotive Special Problems II

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Automotive Technology Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Automotive Technology

**Population:** General

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## 470579 - Automotive Special Problems III

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Automotive Technology Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Automotive Technology

**Population:** General

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## 470580 - Engine Repair

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides a series of lectures and demonstrations on the fundamentals of engine repair, troubleshooting, and engine operation and maintenance. It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required for performing each task; 2. The instruction has included identification and use of appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry publications and resources; 4. In all areas, the student has demonstrated the ability to write work orders and warranty reports, to include information regarding problem resolution and the results of the work performed for the customer and manufacturer. The writing process will incorporate the "Three C's" (concern, cause and correction) as a format to communicate this information.

**Content:** Automotive Technology

**Population:** General

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## 470582 - Manual Transmissions

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course involves an in-depth study of principles of operation, construction, and service of manual transmissions and related drive train components (differentials, clutches, u-joints, rear wheel drive and 4-wheel drive). It is assumed that: 1. In all areas, appropriate theory, safety, and support instruction will be required for performing each task; 2. The instruction has included identification and use of appropriate tools and testing and measurement equipment required to accomplish certain tasks; 3. The student has received the necessary training to locate and use current reference and training materials from accepted industry publications and resources; 4. In all areas, the student has demonstrated the ability to write work orders and warranty reports, to include information regarding problem resolution and the results of the work performed for the customer and manufacturer. The writing process will incorporate the "Three C's" (concern, cause and correction) as a format to communicate this information.

**Content:** Automotive Technology

**Population:** General

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## 470584 - Automotive Special Problems IV

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Courses designed to enhance a student's understanding of shop situations and problems that arise when dealing with live work. It expands on the task lists that have already been taught in previous Automotive Technology Courses. The instructor will teach students how to deal with real world problems that arise when repairing vehicles subjected to various types of customer road use.

**Content:** Automotive Technology

**Population:** General

# Industrial Education - Auto Body Technology/ Collision Repair and Refinish (470600)

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## 470601 - Co-op I (Collision Repair)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470604 - Collision Repair Internship I

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470620 - Structural Analysis and Damage Repair I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course presents instruction on the analysis, repair and replacement of structural panels on unibody automobiles and body and frame alignment on unibody and frame cars. It will be taught by demonstration and lecture.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470622 - Structural Analysis and Damage Repair II

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course presents instruction on the analysis, repair and replacement of structural panels on unibody automobiles and body and frame alignment on unibody and frame cars. It will be taught by demonstration and lecture.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470628 - Damage Analysis, Estimating, and Customer Service

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course instructs students on how to perform Damage Analysis, Estimating, and providing quality Customer Service. For every task in Damage Analysis, Estimating and Customer Service, the following safety requirement must be strictly enforced: Comply with personal and environmental safety practices associated with clothing and the use of gloves; respiratory protection; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470631 - Introduction to Collision Repair

**Grade Level:** 9 - 12

**Credits:** 1/2-1

**Description:** This course introduces the student to safety, sanding, grinding, pulling, roughing and filling; the use of tools and equipment; and preparing and priming automotive panels through lectures and demonstrations.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470632 - Auto Body Technology/ Collision Repair and Refinish

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** This program includes introduction to auto body repair, non-structural analysis and damage repair, structural analysis and damage repair, and painting and refinishing. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470633 - Non-Structural Damage Repair I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course gives instruction and provides practical experience in replacing and aligning bolts on automotive parts such as doors, hoods, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting, and drilling through demonstrations and lectures. It will be taught by demonstration and hands-on practice. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470635 - Plastics and Adhesives

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will be designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470639 - Painting and Refinishing I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat refinishing products, masking procedures, preparations and paint problems. It will be taught by demonstration and lecture. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470640 - Painting and Refinishing II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat refinishing products, masking procedures, preparations and paint problems. It will be taught by demonstration and lecture. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470642 - Mechanical and Electrical Components I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the diagnosis, repair and/or replacement of suspension, steering, electrical, brake, drive train, fuel, exhaust, and restraint systems. It will be taught by demonstration and lecture. The theories and concepts of heating and air conditioning systems will also be discussed and demonstrated. This course provides practical experience in the inspection and repair or

replacement of suspension and steering systems. It will be taught by demonstration and hands-on experience. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470644 - Non-Structural Damage Repair II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course gives instruction and provides practical experience in replacing and aligning bolts on automotive parts such as doors, hoods, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting, and drilling through demonstrations and lectures.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470645 - Painting and Refinishing III

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat refinishing products, masking procedures, preparations and paint problems. It will be taught by demonstration and lecture. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470647 - Painting and Refinishing Special Projects

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the use of lacquer, acrylic enamel and base coat/clear coat refinishing products, masking procedures, preparations and paint problems. It will be taught by demonstration and lecture. The skills required are most effectively taught and practiced on live work. due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470649 - Non-Structural Analysis and Damage Repair III

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course gives instruction and provides practical experience in replacing and aligning bolts on automotive parts such as doors, hoods, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting, and drilling through demonstrations and lectures. It will be taught by demonstration and hands-on practice. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470651 - Non-Structural Analysis and Damage Repair Special Projects

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course gives instruction and provides practical experience in replacing and aligning bolts on automotive parts such as doors, hoods, and fenders; as well as instruction on the repair and replacement of non-structural weld-on automotive panels by aligning, welding, cutting and drilling through demonstrations and lectures. It will be taught by demonstration and hands-on practice. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470652 - Non-Structural analysis and Damage Repair Special Projects Lab

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides practical experience in replacing and alignment of bolts on automotive parts such as doors, hoods, and fenders. It will be taught by demonstration and hands-on practice. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470653 - Mechanical and Electrical Components II

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course provides instruction in the diagnosis, repair and/or replacement of suspension, steering, electrical, brake, drive train, fuel, exhaust, and restraint systems. It will be taught by demonstration and lecture. The theories and concepts of heating and air conditioning systems will also be discussed and demonstrated. This course provides practical experience in the inspection and repair or replacement of suspension and steering systems. It will be taught by demonstration and hands-on experience. The skills required are most effectively taught and practiced on live work. Due to the unpredictable nature of live work, some tasks may carry over to other courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470677 - Special Projects I (Collision Repair)

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course will be designed for students to satisfactorily complete collision repair tasks or to enhance their skills in the occupational area.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470678 - Special Projects II (Collision Repair)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will be designed for students to satisfactorily complete collision repair tasks to enhance their skills in the occupational area.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470679 - Special Projects III (Collision Repair)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course will be designed for students to satisfactorily complete collision tasks to enhance their skills in the occupational area.

**Content:** Collision Repair and Refinish Technology

**Population:** General

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## 470699 - Special Topics - Auto Body Repair

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Auto Body Repair but not described in the above courses.

**Content:** Collision Repair and Refinish Technology

**Population:** General

# Industrial Education - Aviation Technology (470700)

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## 470704 - Aviation Technology

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** Instruction in aviation careers, aviation history, air traffic control, aircraft maintenance, aerodynamics and flight is the basis for this program. Knowledge of various aircraft systems, maintenance practices, and flight principles are used to develop skills in troubleshooting, and problem solving. Leadership and professionalism will be provided through SkillsUSA and the Professional Development Program.

**Content:** Aviation Technology

**Population:** General

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## 470705 - Flight

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** The theory and operation of aviation flight.

**Content:** Aviation Technology

**Population:** General

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## 470710 - Aviation Math

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** This course provides instruction in general math and calculations used in maintenance and repair of aircraft and aircraft power plants. It will be taught by lecture, demonstrations, worksheets, and reading assignments

**Content:** Aviation Technology

**Population:** General

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## 470711 - Blue Print Reading & Drawing

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** This course provides instruction in reading and interpretation of basic industrial and aircraft blueprints. It is taught by lecture, demonstration, worksheets, reading assignments, and projects.

**Content:** Aviation Technology

**Population:** General

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## 470712 - Physics

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** Provides instruction in basic principles of physics as related to aviation maintenance. This is taught by lecture, demonstration, worksheets, reading assignments and projects.

**Content:** Aviation Technology

**Population:** General

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## 470713 - Aircraft Maintenance I

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course provides instruction in the use of aircraft maintenance publications, use and completion of required forms and records, and aircraft mechanic privileges and limitations.

**Content:** Aviation Technology

**Population:** General

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## 470714 - Aircraft Maintenance II

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course provides instruction in the identification, cause, prevention, removal, and treatment of corrosion. It also includes interior and exterior cleaning of the aircraft.

**Content:** Aviation Technology

**Population:** General

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## 470720 - Aircraft Non-Metallic Structures

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the inspection, testing, repair, selection, and installation of aircraft fabric covering: the identification, application, and inspection of aircraft finishing materials. It also covers inspection, service, and repair of metal and composite aircraft structures, including laminated and honeycomb structures, plastic materials, interior furnishings, and access openings.

**Content:** Aviation Technology

**Population:** General

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## 470721 - Sheet Metal Aircraft Structures

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the principles of sheet metal layout, bending, rivet installation, structural inspection, materials and fasteners, and repair methods.

**Content:** Aviation Technology

**Population:** General

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## 470722 - Aircraft Wood & Welding

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in the inspection and repair of welded aircraft assemblies and structures as well as the repair of wood structures.

**Content:** Aviation Technology

**Population:** General

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## 470723 - Assembly, Rigging & Inspection

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the methods and techniques used in the assembly of subunits and major components of the airframe. It also covers the rigging of primary, secondary, and auxiliary control surfaces; theory of flight; and jacking of aircraft, in addition to inspection of airframes to determine airworthiness.

**Content:** Aviation Technology

**Population:** General

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## 470724 - Aircraft Environment & Fuel Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers instruction on checking, inspection, servicing, repair, and troubleshooting of the heating, cooling, air conditioning, pressurization, and oxygen systems; rain and ice control and removal systems; and fire detection and extinguishing systems.

**Content:** Aviation Technology

**Population:** General

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## 470725 - Aircraft Utility Sys & Basic Electricity

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides instruction in inspecting, checking, troubleshooting and repair of heading, speed, altitude, time, attitude, temperature, pressure and position indicating systems, and installation of instruments. It also includes inspection, checking and servicing of speed and take-off warning systems, electrical brake controls, antiskid systems, auto pilot, and navigation and communication systems.

**Content:** Aviation Technology

**Population:** General

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## 470726 - Hydraulic, Pneumatic & Landing Gear

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Repair hydraulic and pneumatic power systems components; identify and select hydraulic fluids; and inspect, check, service, troubleshoot, and repair hydraulic and pneumatic power systems. Inspect, check, service and repair landing gear, retraction systems, shock struts, brakes, wheels, tires, and steering system. Instruction provided by lecture, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General



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## 470727 - Aircraft Electrical Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course includes checking, inspecting, troubleshooting, and repair of aircraft electrical system and system components. Instruction is provided by lecture, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470728 - Turbine Engines & Theory

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the construction, repair, and overhaul of turbine engines.

**Content:** Aviation Technology

**Population:** General

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## 470729 - Turbine Operation & Inspection

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course includes the operation and inspection of turbine engines.

**Content:** Aviation Technology

**Population:** General

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## 470730 - Reciprocating Engine Overhaul

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers inspection, checking, servicing, and repair of opposed and radial engines and reciprocating engine installation. It will be taught by lecture, demonstration, student feed-back, and participation.

**Content:** Aviation Technology

**Population:** General

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## 470731 - Recip Eng Theory, Operations & Inspection

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers theory and development of the aircraft internal combustion engine, in addition to instruction in the use of engine construction and repair. It also includes powerplant conformity and airworthiness inspections.

**Content:** Aviation Technology

**Population:** General

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## 470732 - Engine Fuel Systems & Components

**Grade Level:** 10 - 12

**Credits:** 1

**Description:**

**Content:** Aviation Technology

**Population:** General

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## 470733 - Fuel Metering Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers the operation, inspection, service, and repair of fuel metering systems by lecture, reading assignments, worksheets, demonstrations, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470734 - Engine Induction Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers inspection, checking, troubleshooting, servicing, and repair of engine ice and rain control systems, heat exchangers, superchargers, carburetor air intake, and induction manifolds by lecture, reading assignments, worksheets, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470735 - Propeller Systems & Components

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** The student will inspect, check, service, and repair propeller synchronizing and ice control systems; identify and select propeller lubricants; balance propellers; repair propeller control system components. Inspect, check, service, and repair fixed-pitch, constant-speed, and feathering propellers and propeller governing systems and to install, troubleshoot, and remove propellers. Instruction provided by lecture, reading assignments, worksheets, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470736 - Engine Instrument Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers troubleshooting, servicing and repair of fluid rate-of-flow indicating systems, and repair of engine temperature, pressure, and r.p.m. indicating systems by lecture, reading assignments, worksheets, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470737 - Engine Exhaust Systems

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course covers inspection and repair of engine exhaust system components by lecture, reading assignments, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470738 - Aviation Maintenance Regulations

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** This course provides instruction in the use of aircraft maintenance publications, use and completion of required forms and records, and aircraft mechanic privileges and limitations

**Content:** Aviation Technology

**Population:** General

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## 470739 - Aircraft Cleaning & Corrosion Control

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** This course provides instruction in the identification, cause, prevention, removal and treatment of corrosion. It also includes interior and exterior cleaning of the aircraft.

**Content:** Aviation Technology

**Population:** General

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## 470740 - Ground Handling & Servicing

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** Basic handling and ground service techniques of the aircraft taught by lecture, demonstration, worksheets, reading assignments, and projects.

**Content:** Aviation Technology

**Population:** General

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## 470741 - Fluid Lines & Fittings

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** This course teaches basic hydraulic functions, the fabrication of tubing and flex hoses, as well as seal compatibility. This is taught by lectures, demonstrations, worksheets, reading assignments, and projects.

**Content:** Aviation Technology

**Population:** General

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## 470742 - Aircraft Weight & Balance

**Grade Level:** 10 - 12

**Credits:** 0.25

**Description:** This course teaches knowledge and skills necessary in measuring, calculating, and documenting aircraft weight and balance.

**Content:** Aviation Technology

**Population:** General

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## 470743 - Engine Fire Protection Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers inspecting, checking, servicing, troubleshooting, and repair of engine fire detection systems by lecture, reading assignments, worksheets, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470744 - Engine Cooling Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers inspection and repair of engine cooling system components by lecture, reading assignments, worksheets, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470745 - Lubrication Systems & Components

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers purpose, use, and selection of lubricants; repair engine lubrication system components; inspect, check, service, troubleshoot and repair engine lubrication systems taught by lecture, reading assignments, worksheets, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470746 - Engine Electrical Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course covers repair of engine electrical system components, and instruction on how to install, check, and service engine electrical wiring, controls, switches, indicators, and protective devices by lecture, reading assignments, demonstration, and practical projects.

**Content:** Aviation Technology

**Population:** General

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## 470747 - Engine Ignition Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course teaches students how to operate and overhaul magneto and ignition harness; repair engine ignition system components; inspect, check, service, troubleshoot, and repair reciprocating and turbine engine ignition systems by lecture, reading assignments, worksheets, demonstration, and practical projects

**Content:** Aviation Technology

**Population:** General

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## 470771 - Maintenance A&P

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** The theory and operation of aviation maintenance.

**Content:** Aviation Technology

**Population:** General

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## 470799 - Special Topics - Aviation Technology

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Aviation Technology but not described in the above courses.

**Content:** Aviation Technology

**Population:** General

# Industrial Education - Small Engines/Motorcycle Technology (470800)

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## 470801 - Co-Op Small Engine Repair

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for courses in Area Technology Centers provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470805 - Internship Small Engine Repair

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The internship provides supervised on-the-job work experience related to the students' education objectives. Students participating in the practicum do not receive compensation.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470812 - Small Engine Repair II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides applications of the theory presented in Small Engine Repair and Lab I. It includes hands-on experience, step-by-step procedures for disassembling engines, identification of engine components, inspection of parts, performing precision measurements on crankshaft, cylinder bore and valves, and the reassembly of the engines.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470814 - Four-Stroke Cycle Engine (Small Engine)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** In this course, students repair and overhaul four-cycle engines, inspect engines for problems, follow service manual specifications needed for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance and valve training components. Students will use the following special tools: cylinder hone, valve guide reamer, valve seat cutter, and valve grinder. Safety practices will be observed while using the equipment.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470816 - Small Engine Repair Failure and Analysis

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course includes hands-on experience, step-by-step procedures for disassembling engines, identification of engine components, inspection of parts, performing precision measurements on crankshaft, cylinder bore and valves, and the reassembly of the engines. Also included are training in diagnostic procedures needed to pinpoint failure and determine proper repair.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470818 - Fundamentals of Mathematics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course concentrates on basic math and is designed to assist the student in mastering and applying math skills in the areas of whole numbers, fractions, decimals, percentages, basic measurements, simple equations, ratio and proportions, computed measurements, tables and graphs, and use of the hand-held calculator.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470819 - Ignition/Charging Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents ignition/charging systems theory, the principle of operation of a generator/alternator system, and component identification and application.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470820 - Ignition/Charging Systems Lab

**Grade Level:** 9 - 12

**Credits:** 0

**Description:** This course presents hands-on experience with ignition/charging systems, the principle of operation of a generator/alternator system, and component identification and application.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470821 - Small Engine Repair I

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the student to small engines and their various applications. Also included are the identification and demonstration of hand tools, special tools, and measuring tools. It covers the selection and use of shop manuals and applying safety procedures when working with small engines.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470822 - Two-Stroke Cycle Engine (Small Engine)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course presents theory, repair, and overhaul methods of two-stroke cycle engines.

Students learn to inspect engines for problems, follow a service manual for measuring cylinder bore, piston fit, ring clearance, rod clearance, crankshaft clearance, and valve training components. This course introduces students to the following special tools: cylinder hone, valve guide reamer, valve seat cutter, and valve grinder. Safety practices will be observed while using equipment.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470834 - Welding for Small Engines

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This class introduces students to the art and science of welding. Students learn to prepare the equipment and to perform basic welding operations.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470835 - Engine Tune-Up

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** After completion of this course the student will be able to perform motorcycle engine tune-ups including: ignition systems, replacing points and condensers, adjusting and verifying timing and service guidelines.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470836 - Special Topics - Small Engines

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - Small Engines but not described in the above courses.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470837 - Motorcycle Chassis

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** After completion of this course, the student will be able to identify front fork components and service procedures for the steering assembly. The student will be able to identify the service requirements for final drives and the front fork. Instruction will be given in the inspection of brake systems, safe handling of brake fluid, replacing brake shoes and pads, and bleeding hydraulic brake systems.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General



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## 470838 - Introduction to Motorcycle Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will introduce the student to motorcycle repair. It will cover the career of the motorcycle repair technician, including entry level skills, advancement opportunities, and activities performed at a dealership. Safe working practices, accident prevention, proper lifting, and recognizing typical hazards around a motorcycle service department will be stressed

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470839 - Tools and Measurements

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** After completing this course the student will be able to list and demonstrate the ability to use the tools of the motorcycle technician, including hand tools, power tools, measuring instruments, and specialty tools.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470840 - Small Engine Electrical Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course presents electrical systems and their application. Basic electrical theory, including electrical pressure, current, resistance and power measured in volts, amperes, and ohms is also presented. Ohm's law will be discussed with its application to electrical circuits. Basic circuits (series, parallel, and combination of series and parallel) will be discussed.

**Content:** Automotive Technology

**Population:** General

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## 470842 - Introduction to Motorcycle Technology

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course will introduce the student to motorcycle repair. It will cover the career of the motorcycle repair technician, including entry level skills, advancement opportunities, and activities performed at a dealership. Safe working practices, accident prevention, proper lifting, and recognizing typical hazards around a motorcycle service department will be stressed.

**Content:** Automotive Technology

**Population:** General

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## 470843 - Motorcycle Chassis Systems

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** After completion of this course, the student will be able to identify front fork components and service procedures for the steering assembly. The student will be able to identify the service requirements for final drives and the front fork. Instruction will be given in the inspection of brake systems, safe handling of brake fluid, replacing brake shoes and pads, and bleeding hydraulic brake systems.

**Content:** Automotive Technology

**Population:** General

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## 470844 - Intro to Motorcycles

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explores culture and history of motorcycles. Includes possible field trips to dealerships for student exploration into motorcycle industry.

**Content:** Automotive Technology

**Population:** General

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## 470845 - Basic Engines/Drive Systems & Lab (Motorcycles)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explores professional work habits, proper use of hand and power tools, service manuals, basic engine and parts identification. Covers internal combustion engines, transmissions, fuel systems, and assembly and disassembly.

**Content:** Automotive Technology

**Population:** General

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## 470846 - Frames and Suspensions & Lab (Motorcycles)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Focuses on the design, operation, maintenance, and geometry of motorcycles. Explores basic principles of hydraulics and lubricants. Includes basic adjustments of all frame and suspension components.

**Content:** Automotive Technology

**Population:** General

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## 470847 - Diagnostics and Troubleshooting & Lab (Motorcycles)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Focuses on appropriate procedures used in diagnosing customer concerns

**Content:** Automotive Technology

**Population:** General

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## 470848 - Advanced Engines/Drive Systems & Lab (Motorcycles)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Develops skills for engine and transmission overhaul. Emphasizes assembly and disassembly of all components of engine and transmission.

**Content:** Automotive Technology

**Population:** General

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## 470849 - Performance Machining/Welding & Lab (Motorcycles)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explores standard and performance-machining practices associated with performance motorcycles. Includes machining practices associated with valve jobs, cylinder boring and honing, big bore kits, and cylinder head porting and polishing. Covers basic welding and weld inspection practices.

**Content:** Automotive Technology

**Population:** General

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## 470850 - Portable 2 Cycle Equip Lab

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This class will enable the student to identify the external parts of the equipment, operate equipment, handle and mix fuel, and transport and handle trimmers and saws. Instruction will be given to identify and diagnose related problems in chain saws, trimmers, and other two-stroke cycle equipment.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 470852 - Co-Op Powersports/Motorcycle Technology

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for courses in Area Technology Centers provides supervised on-the-job work experience related to the student's educational objectives. Students participating in the Cooperative Education program receive compensation for their work.

**Content:** Automotive Technology

**Population:** General

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## 470853 - Internship Powersports/Motorcycle Technology

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The internship provides supervised on-the-job work experience related to the students' education objectives. Students participating in the practicum do not receive compensation.

**Content:** Automotive Technology

**Population:** General

# Industrial Education - Machine Tool Technology (470900)

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## 470911 - Applied Machining I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Consists of intermediate level skills using machining machines and surface grinders. It will include the selection of grinding wheels. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced and properties of metals are discussed.

**Content:** Machine Tool Technology

**Population:** General

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## 470912 - Applied Machining II

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Carries the student to higher levels in the operation of machine tools. Applications in milling, lathe, benchwork, and utilizing gauge blocks and the sine bar are covered in this course. Surface grinding and abrasives are introduced, and properties of metals are discussed.

**Content:** Machine Tool Technology

**Population:** General

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## 470913 - Fundamentals of Machine Tools-A

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills, and lathes.

**Content:** Machine Tool Technology

**Population:** General

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## 470914 - Fundamentals of Machine Tools-B

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides intermediate skill development in machine tool technology. The course builds on basic skills developed in MTT 110, especially in the calculation of safe cutting speed and feed rates for the drill press, power saw, mills, and lathes. Shop safety, benchwork, and precision measurement are also emphasized.

**Content:** Machine Tool Technology

**Population:** General

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## 470915 - Manual Programming

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the student to CNC format and the Cartesian Coordinate System. It also introduces the student to CNC codes and programming, set-up and operation of CNC machine tools. The student will utilize process planning and manual programming for CNC equipment. The student will load a CNC program and set tool and work offsets.

**Content:** Machine Tool Technology

**Population:** General

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## 470916 - Special Topics - Machine Tool Technology

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - Machine Tool Technology but not described in the above courses.

**Content:** Machine Tool Technology

**Population:** General

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## 470918 - Basic Machine Tool I

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course provides the basic principles needed for a solid foundation in machine tool technology. Areas and machines covered include shop safety, benchwork, drill press, power saw, measurement, mills and lathes.

**Content:** Machine Tool Technology

**Population:** General

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## 470920 - Basic Blueprint Reading for Machinist

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** **NOTE: This course will retire at the end of the 2016-2017 school year. The purpose is to eliminate duplication of courses or outdated courses in this content area.**

**Content:** Machine Tool Technology

**Population:** General

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## 470921 - Blueprint Reading for Machinists

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides the student with a beginning and advanced series of lectures, demonstrations, and practice exercise in the study of prints. Safety will be emphasized as an integral part of this course.

**Content:** Machine Tool Technology

**Population:** General

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## 470922 - Mechanical Blueprint Reading

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Provides the student with an advanced series of lectures, demonstrations, and practice exercises in the study of prints involving math (both decimal and metric), combination of lines, multi-view drawings, assembly drawings, fasteners, machining and construction processes, datum coordinates, numerical control prints, sheet metal prints, welding, casting and forging prints. Safety will be emphasized.

**Content:** Machine Tool Technology

**Population:** General

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## 470924 - Advanced Dimensioning and Measurement

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Presents an in-depth study of advanced industrial dimensioning principles, tolerances, fits, and A.N.S.I. standards. Exploration of the shape and geometric characteristics of parts through geometric tolerancing.

**Content:** Machine Tool Technology

**Population:** General

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## 470925 - CAD/CAM/CNC

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the student to CAD/CAM/CNC systems which includes CAM software. The student will utilize process planning, manual programming and CAD/CAM for CNC equipment. This student will load a CNC program and set tool and work offsets, and machine part.

**Content:** Machine Tool Technology

**Population:** General

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## 470926 - Introduction to Conversational Programming

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduce students to conversational programming guidelines, which will include program preparation, conversational input, and minor editing.

**Content:** Machine Tool Technology

**Population:** General

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## 470927 - Conversational Editing and Subroutines

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces students to performing editing routines, to subroutines, and to programs that contain loops. Students will also interpret error messages from the control.

**Content:** Machine Tool Technology

**Population:** General

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## 470928 - Metrology/Control Charts

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Provides the basic principles in using precision measurement instruments and their application to inspection and quality control.

**Content:** Machine Tool Technology

**Population:** General

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## 470929 - Co-op I (Machine Tool)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Machine Tool Technology

**Population:** General

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## 470932 - Internship (Machine Tool)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Machine Tool Technology

**Population:** General

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## 470979 - Special Problems (CMM)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This is a course designed for the student who has demonstrated specific needs.

**Content:** Machine Tool Technology

**Population:** General

# Industrial Education - CAD/Drafting Technology (480100)

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## 480101 - Digital Literacy (CAD)

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** The impact of computers on society, and ethical issues are presented. Students use a microcomputer and application software, including word processing, database, spreadsheets, presentation software, and the Internet, to prepare elementary documents, reports, and electronic presentations.

**Content:** Drafting

**Population:** General

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## 480102 - Computer Fundamentals (For CAD)

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Students use a microcomputer to develop skills in using the operating system and application software including word processing, database, spreadsheet, and the Internet. Communication skills, terminology, impact on society, technology awareness, and ethical issues are presented. This course is intended for the student with some computer-related experience or training.

**Content:** Drafting

**Population:** General

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## 480104 - Introduction to Surveying (For CAD)

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Introduces the elements of surveying including measurements, distance corrections, leveling, angles, area computation, computer calculations, topographic surveying, and electronic distance measuring instruments, construction surveying, GPS, and GIS.

**Content:** Drafting

**Population:** General

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## 480110 - Intro to Computer Aided Drafting

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This combined lecture and lab course is designed to introduce the student to the terminology, capabilities, and various applications of interactive computer graphics. It involves hands-on use with a graphic design workstation and the application of the fundamentals of computer assisted drafting. This course emphasizes skill development of basic computer drafting commands, techniques exploration, and in-depth study of command utilization as they apply to industrial applications.

**Content:** Introduction to Computer Aided Drafting

**Population:** General



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## 480111 - Basic Drafting

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces students to the application of elements and principles of design and the development of studio skills. These skills include conceptualizing and translating ideas into visual form through the use of thumbnails, roughs, and full-sized marker comps.

**Content:** Drafting

**Population:** General

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## 480112 - Intermediate Computer Aided Drafting

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to introduce the student to creating symbol libraries and symbol construction. The student will learn construction of assembly drawings through file manipulation and demonstrate advanced command structure. It allows the student to explore computer drafting in-depth and to increase skill. This course will introduce the student to 3D solid models. It will allow the student to use the advanced functions of rendering.

**Content:** Computer Aided Drafting

**Population:** General

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## 480113 - Engineering Graphics

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This is an in-depth study of advanced industrial dimensioning principles, tolerances, fits, and ANSI standards. The shape and geometric characteristics of parts will be explored through geometric tolerancing. The student will also study the basic fundamentals of precision measurement and its application in the industrial setting.

**Content:** Drafting

**Population:** General

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## 480114 - Interdisciplinary Geometry and Computer Aided Drafting (CAD)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Two computer aided drafting (CAD) courses meet the required geometry credit and one CAD credit.

**Content:** Computer Aided Drafting for Geometry Requirement

**Population:** General

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## 480116 - Architectural Design

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Combines the elements and fundamentals of architectural design with the theory and application of presentation techniques. Deals with site selection, use of materials in design, spatial relationships, and aesthetics. Traditional and contemporary design, designers, processes, and historical milestones are explored. Board and computer techniques are used in illustrating interiors of student designs.

**Content:** Drafting

**Population:** General

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## 480117 - Introduction to Architecture

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides a practical approach to architectural drafting. An introduction to board and computer aided drafting as it relates to residential and commercial architecture, specifications, and structural systems including wood, masonry, concrete, and steel.

**Content:** Drafting

**Population:** General

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## 480119 - Construction Drafting (Techniques)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This lecture and lab course covers the elements for constructing standard residential and commercial buildings. Wood frame, solid masonry veneer, concrete, and steel construction details are explored. Students will learn essentials of standard construction details, which illustrate the various construction methods and will develop a portfolio for those techniques.

**Content:** Drafting

**Population:** General

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## 480127 - Industrial Drafting Processes

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explores weldment design, welding symbols, welding processes, and fabrication techniques, tool and die, and jig and fixture drawings. Design specifications, pattern drawings, casting, forming processes, and mechanical drawing principles in relation to the manufacturing industry. Screw-thread design and related fastening concepts as they relate to manufactured items and construction.

**Content:** Drafting

**Population:** General

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## 480133 - Introduction to GIS

**Grade Level:** 10 - 12

**Credits:** 1/2 - 1

**Description:** This is an introductory course designed to provide basic theories and concepts of geographical information systems including basic GIS capabilities, data collection, data types, GPS, and basic mapping concepts. Introduces GIS software using industry-specific applications and technology to provide a conceptual base to build expertise in GIS.

**Content:** Drafting

**Population:** General

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## 480135 - Mechanical Design

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Explores the design process involved in the development of mechanical working drawings and the design principles in various manufacturing disciplines; gear drawing and design, and cam and follower drawing and design. Design principles, mechanical adaptation, and their drawing practices. Mechanical assemblies, machine design, power transmission, bearings, and seals in assemblies. Shop processes involved in these mechanical designs.

**Content:** Drafting

**Population:** General

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## 480136 - Parametric Modeling

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Introduces Parametric Modeling and Design of a CAD workstation in exploring the techniques associated with drafting and design using Parametric modeling software. Introduces creation of parametric models and explores associative function and flexibility of concurrent part design.

**Content:** Drafting

**Population:** General

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## 480142 - Co-op I (CAD)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Computer Aided Drafting

**Population:** General

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## 480145 - Internship (CAD)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Computer Aided Drafting

**Population:** General

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## 480179 - Special Problems (CAD)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Students will expand their portfolio of CAD drawings and related work specific to the occupational opportunities in specific geographical locations. Assignments and curriculum will vary as determined by the program instructor.

**Content:** Drafting

**Population:** General

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## 480199 - Special Topics - CAD

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - CAD but not described in the above courses.

**Content:** Computer Aided Drafting

**Population:** General

# Industrial Education - Visual Communication Art (480200)

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## 480201 - Co-op I (Visual Comm)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480202 - Co-op II (Visual Comm)

**Grade Level:** 11 - 12

**Credits:** 2

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480203 - Co-op III (Visual Comm)

**Grade Level:** 11 - 12

**Credits:** 3

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480204 - Internship (Visual Comm)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480210 - Orientation to Visual Communication Art

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480211 - Visual Communication Art

**Grade Level:** 9 - 12

**Credits:** 1-6

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480212 - Drawing I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480213 - Advertising Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480214 - Layout and Graphic Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480215 - Introduction Visual Communication Art

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480216 - Computer Illustration I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480217 - Traditional Illustration

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480218 - Design, Layout and Pasteup

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480219 - Color Theory Applications

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480220 - Professional Portfolio Development

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480221 - Fundamentals of Drawing II

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480222 - Computer Design and Page Layout II

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480223 - Still Photography

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480224 - Theories of Traditional Pre-Press

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480225 - Fundamentals of Typographic Design

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

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## 480299 - Special Topics - Visual Communication Art

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** NOTE: This course will retire at the end of the 2016-17 school year. This course and related career pathways is being replaced with the Media Arts Program of Studies and Career Pathways beginning with the 2016-17 school year. Students who started a Visual Communication Art career pathway in 2015-16 must finish the pathway during the 2016-17 school year. It is recommended that students be transitioned to a Media Arts Career Pathway for the 2016-17 school year. This course will not count for College and Career Readiness or preparatory status beyond 2016-17.

**Content:** Visual Communication Art Technology

**Population:** General

# Industrial Education - Printing Technology (480300)

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## 480301 - Co-op I (Graphic Tech)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Printing Technology

**Population:** General

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## 480304 - Internship (Graphic Tech)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Printing Technology

**Population:** General

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## 480321 - Press I

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the proper method of operating an offset duplicator including adjustments needed to produce quality printed products.

**Content:** Printing Technology

**Population:** General

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## 480323 - Computer Layout and Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students will understand and apply concepts and mechanics of page layout. This course provides practical application in the operation and development of skills in electronic publishing using software packages and operating systems.

**Content:** Printing Technology

**Population:** General

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## 480324 - Typography

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course will introduce the elements and uses of typographic design including selection of type styles, fonts, and methods of type specification.

**Content:** Printing Technology

**Population:** General

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## 480325 - Graphic Communication

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces printing processes and develops graphic communication concepts and vocabulary. Includes: color applications, characteristics of paper, safety, and copyright laws.

**Content:** Printing Technology

**Population:** General

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## 480326 - Typography and Typesetting Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** NOTE: This course will retire at the end of the 2015-16 school year. The purpose is to eliminate duplication of courses or outdated courses in this content area.

**Content:** Printing Technology

**Population:** General

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## 480328 - Computer Fundamentals for Visual Communication

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Emphasizes skills and awareness of computer applications that are specific to industry in a program area. Allows for the customization of computer-related course offerings for industry specific needs and to fulfill the computer fundamentals requirement. Must be completed with a letter grade of "C" or better. Satisfies the computer literacy requirement.

**Content:** Printing Technology

**Population:** General

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## 480329 - Digital Production

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Presents principles, concepts, techniques, and materials used in the technical application of software as it relates to commercial and graphic design. Develops primary skills using software applications to digitally manipulate, enhance, and create composite photographs.

**Content:** Printing Technology

**Population:** General

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## 480330 - Finishing and Binding

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Emphasizes finishing and binding operations needed to complete a printed job including handling, figuring, cutting, and using and maintaining finishing and binding equipment.

**Content:** Printing Technology

**Population:** General

# **Industrial Education - Digital Media (480400)**

# Industrial Education - Welding (480500)

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## 480501 - Cutting Processes

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** A working knowledge of various cutting processes used by the welding industry. Will include, but is not limited to, safety, theory of operation, setup and operating techniques, troubleshooting, and making minor equipment repairs, terms and definitions, identification, evaluation, repair and prevention of discontinuities of cut surfaces. Includes oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting process.

**Content:** Welding

**Population:** General

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## 480502 - Cutting Processes Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Designed to provide the student with practical experience to become proficient in the use of various metal cutting processes. Safety, setup, and operating techniques are employed. Students will troubleshoot and make minor repairs to equipment. Students will also learn to identify, repair, and prevent reoccurrence of cut surface discontinuities. Processes shall include, but is not limited to: OFC, PAC, AAC, and mechanical methods. Various materials will be used where appropriate.

**Content:** Welding

**Population:** General

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## 480503 - Basic Welding A

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Introduction to welding, cutting processes, and related equipment. Basic setup, operation, and related safety are applied.

**Content:** Welding

**Population:** General

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## 480504 - Basic Welding B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** An Introduction to common cutting processes used in industry. theory, setup, operation, and related safety are applied.

**Content:** Welding

**Population:** General

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## 480505 - Blueprint Reading for Welding

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Provides a study of occupationally specific prints for welders. Advanced study of multi-view drawings, assembly drawings, datum dimensions, numerical control drawings, sheet metal prints, castings and forgings, instrumentation and control charts and diagrams, working drawings, geometric dimensioning and tolerancing and use of reference materials and books are included. Occupational specifics including welding drawings, symbols, joint types, grooves, pipe welding symbols, testing symbols, and specification interpretations are stressed.

**Content:** Welding

**Population:** General

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## 480506 - Blueprint Reading for Welding Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Provides students with practice fabricating from a blueprint. Students will read and fabricate from detail prints, control distortion during fabrication, and follow the proper sequence in welding a fabricated part. Students will use welding symbols and study weld sizes and strengths.

**Content:** Welding

**Population:** General

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## 480507 - Welding Certification

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Provides the student with a working knowledge of certification encountered in welding. The student will start with developing a WPS, qualify the WPS, and qualify personnel. Documents used in welding certification are developed and used.

**Content:** Welding

**Population:** General

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## 480508 - Welding Certification Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Provides the student with an opportunity to test to certification standards on all types of welding.

**Content:** Welding

**Population:** General

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## 480509 - Basic Blueprint Reading (For Welding)

**Grade Level:** 9 - 12

**Credits:** 0.5

**Description:** This course presents basic applied math, lines, multiview drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Safety will be emphasized as an integral part of the course.

**Content:** Welding

**Population:** General



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## 480521 - Shielded Metal Arc Welding (SMAW)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides experiences in which students acquire the manipulative skills to do groove welds in all positions with backing.

**Content:** Welding

**Population:** General

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## 480522 - Gas Metal Arc Welding

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to teach students the identification, inspection, and maintenance of GMAW machines; identification, selection and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as FCAW and SAW and metallurgy are also included.

**Content:** Welding

**Population:** General

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## 480523 - Oxy-Fuel Systems

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is designed to provide the student with a working knowledge of: oxy-fuel identification, set-up, inspection, and maintenance; consumable identification, selection and care; principles of operation; and effects of variables for manual and mechanical oxyfuel cutting, welding, brazing principles and practice, and metallurgy, shop safety and equipment use are also covered.

**Content:** Welding

**Population:** General

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## 480524 - Basic Welding

**Grade Level:** 9 - 12

**Credits:** .5

**Description:** This class introduces the student to the art and science of welding. Students learn to prepare the equipment and to perform basic welding operations. (WEX 120/121 may be substituted for WEX 151)

**Content:** Welding

**Population:** General

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## 480525 - Gas Tungsten Arc Welding

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed to teach students the identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; the effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting.

**Content:** Welding

**Population:** General

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## 480526 - Oxy-Fuel Systems Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Manipulative skills necessary to weld and cut plate and pipe in all positions, as well as brazing, braze welding and gouging.

**Content:** Welding

**Population:** General

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## 480527 - Shielded Metal Arc Welding Lab (SMAW Lab)

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Provides laboratory experiences in which the student acquires the manipulative skills to perform fillet welds in all positions.

**Content:** Welding

**Population:** General

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## 480528 - SMAW Groove Welds with Backing Lab

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Provides experiences in which students acquire the manipulative skills to do groove welds in all positions with backing.

**Content:** Welding

**Population:** General

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## 480529 - Gas Tungsten Arc Welding Lab (GTAW Lab)

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Teaches the necessary manipulative skills needed to apply the Gas Tungsten Arc on various joint designs, on plate with both ferrous and non-ferrous metals. Plasma Arc cutting is included.

**Content:** Welding

**Population:** General

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## 480530 - Gas Tungsten Arc Welding Groove Lab (GTAW Lab)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Teaches the method of operation and application of the Gas Tungsten Arc Welding process for welding groove welds in both ferrous and non-ferrous plate in all positions.

**Content:** Welding

**Population:** General

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## 480532 - Gas Metal Arc Welding (GMAW Lab)

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Teaches the practical application and manipulative skills of Gas Metal Arc Welding and the proper safety situations needed in this process. Both ferrous and non-ferrous metals will be covered, as well as various joint designs on plate in all positions.

**Content:** Welding

**Population:** General

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## 480533 - Gas Metal Arc Welding (GMAW) Groove Lab

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Teaches the method of operation and application of the Gas Metal Arc Welding process for welding groove welds in both ferrous and non-ferrous plate in all positions using both short circuiting and spray transfer where appropriate.

**Content:** Welding

**Population:** General

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## 480534 - Gas Metal Arc Welding (GMAW) Aluminum Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Teaches welding aluminum using GMAW process. Fillet and groove welds are made in all positions on both plate and pipe. Short circuiting and spray transfers are used where appropriate.

**Content:** Welding

**Population:** General

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## 480535 - SMAW Open Groove Lab

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Designed to build upon SMAW Plate Lab I and II. Offers the student the opportunity to advance skills in the practical aspects of vee-butt plate welding using SMAW.

**Content:** Welding

**Population:** General

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## 480536 - Shielded Metal Arc Welding Pipe Lab A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Teaches the required manipulative skills to arc weld pipe using mild steel electrodes in the 2G and 5G positions including proper pipe preparations, electrodes, safety precautions, and welding sequences. Fillet welds on pipe joints are also included in 2F, 2FR, 4F, and 5F positions.

**Content:** Welding

**Population:** General

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## 480537 - Shielded Metal Arc Welding Pipe Lab B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Teaches the required manipulative skills to arc weld pipe using mild steel electrodes in the 6G position including proper pipe preparations, electrodes, safety precautions, and welding sequences.

**Content:** Welding

**Population:** General

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## 480538 - Gas Tungsten Arc Welding Pipe Lab A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Teaches the method of operation and application of the Gas Tungsten Arc Welding system for welding of both ferrous and non-ferrous pipe in 2G and 5G positions.

**Content:** Welding

**Population:** General

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## 480540 - Gas Metal Arc Welding (GMAW) Pipe Lab A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Acquaints the student with the operation and application of the Gas Metal Arc System for welding pipe in 2G and 5G positions.

**Content:** Welding

**Population:** General

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## 480541 - Co-op I (Welding)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Welding

**Population:** General

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## 480544 - Internship (Welding)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Welding

**Population:** General

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## 480595 - Special Problems (for Welding)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course is designed for the student who has demonstrated a specific need for industry related skills.

**Content:** Welding

**Population:** General

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## 480599 - Special Topics - Welding

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Welding but not described in the above courses.

**Content:** Welding

**Population:** General

# **Industrial Education - Multimedia Technology (480600)**

# Industrial Education - Wood Manufacturing Technology (480700)

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## 480711 - Introduction to Panel Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is an overview of the terminology, materials, processing equipment and related software utilized by panel processing manufacturers of residential and commercial case work. Emphasis will be placed on the design and fabrication of frameless cabinetry to the use of panel saws, edgebanders, CNC boring equipment, and case clamps.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480712 - Computer Applications (Wood)

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Students learn about the operation of the computer hardware components, PC operating systems, and software applications. Fundamentals of the Microsoft Windows operating systems are covered along with MS-DOS essentials. Students are introduced to word processing, spreadsheet, and database applications using Microsoft Office.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480716 - Lumber Grading and Drying

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course prepares an individual to master the National Hardwood Lumber Association's rules for grading hardwoods and to apply those rules in a production setting. Students will identify species and use a deductive process to grade the lumber and assign it a monetary value. Students will also be introduced to hardwood lumber drying systems. Conventional dry kilns, dehumidification, vacuum, and solar kilns are illustrated. Current theories on drying lumber to minimize defects and increase quality are demonstrated. Computer controls are explained.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480717 - Millwork Technology

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Design of moulding, doors, and door frames; windows; stairs; and mantels are the focus of this course. Emphasis will be placed on construction principles, joinery, and fasteners for millwork assemblies. Each student will build one or more millwork items.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480718 - Moulder/Grinder Operation

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course is an introduction to the setup, operation, and maintenance of moulding and grinding equipment. The student will use tools, measuring devices, and visual inspection techniques to insure quality to customer specifications. Students will set up and operate a moulder or plane, shape and groove woodstock. Students will read work tickets and examine the pattern shape to determine moulder setup procedure and type of woodstock to be cut.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480719 - Technical Drawing and Blueprint Reading

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** Fundamentals of multiview and pictorial drafting techniques; and reading and interpreting architectural, furniture, and cabinet drawings are the focus of this course. Students will apply blueprint reading skills by preparing materials and cutting lists for actual jobs.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480720 - Wood Finishing

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course is an overview of contemporary spray finishing materials and processes for millwork assemblies. Each student will learn to set up and troubleshoot a variety of common finishing systems while experimenting with finishing materials and supplies.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480721 - Furniture Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Furniture design principles, structural considerations, joinery, fasteners, veneering, and use of specialized machines for complex operations are the focus of this course. Each student will plan and build a piece of furniture which includes at least one drawer, a door and some veneering.

**Content:** Wood Manufacturing Technology

**Population:** General



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## 480725 - CAD for Wood Technology

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is designed for the fundamental principles and capabilities of CAD, basic drafting conventions and operations that are relative to the Wood Manufacturing Industry.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480731 - Cabinet Making Technology

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course is an overview of the cabinet and store fixture industries. Emphasis will be placed on the design and construction of face frame as well as frameless (32mm) systems. Each student will plan and build a vanity, kitchen cabinet, or store fixture which utilizes contemporary casework techniques.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480733 - Advanced Wood Processing

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course is a capstone experience for advanced wood processing technicians involving the integration of computer aided design and world-class manufacturing of wood products.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480740 - Wood Products Manufacturing

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Fundamentals of wood processing and an overview of the secondary wood processing industry are covered in this course. The nature of wood, material selection, terminology, safe setup, and operation of common woodworking equipment will be discussed. Each student will fabricate a wood product while being introduced to custom woodworking techniques, as well as mass production concepts related to product engineering.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480741 - Co-op I (Wood)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480744 - Internship (Wood)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480795 - Special Problems (for Wood Manufacturing)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course is designed for the student who has demonstrated a specific need for industry related skills.

**Content:** Wood Manufacturing Technology

**Population:** General

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## 480799 - Special Topics - Wood Manufacturing Technology

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Wood Manufacturing Technology but not described in the above courses.

**Content:** Wood Manufacturing Technology

**Population:** General

# Industrial Education - Metal Fabrication (480800)

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## 480801 - Industrial Maintenance for Metal Fabrication

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces various types of sheet metal designs, fabrication, and fastening techniques used in the sheet metal industry.

**Content:** Metal Fabrication

**Population:** General

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## 480802 - Blueprint Reading for Construction (For Metal Fabrication)

**Grade Level:** 9 - 12

**Credits:** 0.5

**Description:** This course will provide a series of lectures, demonstrations, and practice exercises in the study of symbols, views, sections, details, and material lists found on architectural working drawings, building materials and specifications lists, and construction dimensioning systems and charts/schedules.

**Content:** Metal Fabrication

**Population:** General

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## 480803 - Co-op I (Metal Fab)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in an approved capstone course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

**Content:** Metal Fabrication

**Population:** General

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## 480806 - Internship (Metal Fab)

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a capstone course associated with their identified career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

**Content:** Metal Fabrication

**Population:** General

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## 480811 - TQM

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the student to fundamental of TQM (Total Quality Management) principles and techniques as an integral part of the business environment. Teamwork and team-building strategies are discussed and are incorporated into the framework of the instruction as well as a few team-building exercises.

**Content:** Metal Fabrication

**Population:** General

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## 480812 - Heat Load/Duct Design

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Introduces the fundamentals needed to calculate heat gain and heat loss, thereby determining air conditioner/furnace size. This information will be used to calculate the correct duct size. Procedures to lay out a duct system as outlined in ACCA MANUAL D are presented.

**Content:** HVAC Metal Fab

**Population:** General

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## 480813 - Parallel Line Layout

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces the parallel line method of developing the pattern for an object.

**Content:** Metal Fabrication

**Population:** General

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## 480814 - Radial Line Development

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** Radial Line Development uses many of the procedures of parallel line development and triangulation. The student will learn to develop patterns from any centered, round or square taper, using the radial line method.

**Content:** Metal Fabrication

**Population:** General

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## 480816 - Metal Trade Information and Metals

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** A series of lectures and demonstrations of hand tools, use of machinery in the shop, and various types of metal and their uses in the metal trade will be discussed.

**Content:** Metal Fabrication

**Population:** General

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## 480817 - Sheet Metal I - A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the student to figuring drawings of plans for a duct system and also learning how to fabricate the ducts.

**Content:** Metal Fabrication

**Population:** General

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## 480818 - Sheet Metal I - B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides advanced training in designing and interpreting plans for a duct system and advanced fabrication of duct systems and precision sheet metal concepts.

**Content:** Metal Fabrication

**Population:** General

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## 480819 - Sheet Metal II - A

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides a series of lectures to improve skills in pattern development and fabrication of more difficult fittings.

**Content:** Metal Fabrication

**Population:** General

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## 480820 - Sheet Metal II - B

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course provides a series of advanced lectures to improve skills in advanced pattern development and fabrication of complicated fittings.

**Content:** Metal Fabrication

**Population:** General

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## 480822 - Math for Metal Fabrication

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course is a review of basic math.

**Content:** General Mathematics

**Population:** General

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## 480825 - Sheet Metal Print Reading

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course presents basic applied math, lines, multiview drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, and sketching typical to sheet metal drawings. Safety will be emphasized as an integral part of the course.

**Content:** Metal Fabrication

**Population:** General

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## 480826 - Triangulation

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course involves working from two known points to locate a third point.

**Content:** Metal Fabrication

**Population:** General

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## 480831 - Industrial Maintenance

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course introduces various types of sheet metal designs, fabrication, and fastening techniques used in the sheet metal industry.

**Content:** Industrial Maintenance Technology

**Population:** General

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## 480879 - Special Projects I (Metal Fab)

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This is a course designed for the student who has demonstrated specific special needs.

**Content:** Metal Fabrication

**Population:** General

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## 480899 - Special Topics - Metal Fabrication

**Grade Level:** 9 - 12

**Credits:** .5-1

**Description:** Instruction related to Industrial Education - Metal Fabrication but not described in the above courses.

**Content:** Metal Fabrication

**Population:** General

# Industrial Arts - Media Arts (480900)

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## 480901 - Introduction to Media Arts

**Grade Level:** 9 - 11

**Credits:** 1

**Description:** An introduction to and survey of the creative and conceptual aspects of designing media arts experiences and products, including techniques, genres and styles from various and combined mediums and forms, including moving image, sound, interactive, spatial and/or interactive design. Typical course topics include: aesthetic meaning, appreciation and analysis; composing, capturing, processing and programming of media arts products, experiences and communications; their transmission, distribution and marketing; as well as contextual, cultural, and historical aspects and considerations.

**Content:** Media Arts

**Population:** General

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## 480902 - Interactive Design

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** The creative and conceptual aspects of designing and producing interactive media arts experiences, products and services, including reactive (sensory-based [touch, proximity, movement, etc.] devices) and interactive technologies, 3D video game animation, interface design, mobile device applications, web multimedia, social media based, augmented, and/or virtual reality. Typical course topics include: aesthetic meaning, appreciation and analysis; construction, development, processing, modeling, simulation and programming of interactive experiences; their transmission, distribution and marketing, as well as contextual, cultural and historical aspects and considerations.

**Content:** Media Arts

**Population:** General

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## 480903 - Moving Image Animation

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The creative and conceptual aspects of designing and producing animated images for the variety of storytelling and multimedia presentations including: dramatic narratives, artistic and experimental presentations and/or installations, ambient, interactive, immersive and performance media, etc. Typical course topics include: aesthetic meaning, appreciation and analysis of animation; all processes of development including: composition and rendering, animation physics and expressions; techniques, forms and technologies; modeling and programming; pre-production planning and organization; production and post-production methods, tools and processes; animation presentation, transmission, distribution and marketing; as well as contextual, cultural, and historical aspects and considerations.

**Content:** Media Arts

**Population:** General

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## 480904 - Virtual Design

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** The creative and conceptual aspects of designing and producing simulative, virtual, 3D media arts experiences, products and services, including: environments, structures, objects, architecture and ecologies, virtual and augmented reality. Typical course topics include: aesthetic meaning, appreciation and analysis; construction, development, processing, modeling, simulation and programming of experiences, structures, architecture and/or environments; their presentation, transmission, distribution and marketing, as well as contextual, cultural, and historical aspects and considerations.

**Content:** Media Arts

**Population:** General

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## 480910 - Video Studio Fundamentals

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** This course will expose students to the materials, processes, and artistic techniques involved in creating video productions. Students learn about the operation of cameras, lighting techniques, camera angles, depth of field, composition, storyboarding, sound capture and editing techniques. Course topics may include production values and various forms/styles of video production (e.g., documentary, storytelling, news magazines, animation, etc.) As students advance they are encouraged to develop their own artistic styles. Major cinematographers, video artists and their work may be studied.

**Content:** Media Arts

**Population:** General

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## 480911 - Studio Directing and Performance

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** This course explores the role of managing the production of video studio projects. Students develop knowledge and skills in studio multi-camera and field television production. Students also develop performance skills for broadcasting including interpretation of copy, news casting, and ad lib announcing. The course covers techniques of narrative and non-fiction writing and scripting, the analysis and writing of radio, television, and video materials, including storytelling and screenwriting.

**Content:** Media Arts

**Population:** General

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## 480912 - Advanced Studio Production - Moving Images

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Students will explore the creative and conceptual aspects of designing and producing moving images for the variety of cinematic, film/video and multimedia presentations including: fictional dramas, documentaries, music videos, artistic and experimental presentations and/or installations, interactive, immersive and performance media, etc. Typical course topics include: aesthetic meaning, appreciation and analysis of moving imagery; all processes of development including: pre-production planning and organization, production and post-production methods, tools and processes; moving image presentation, transmission, distribution and marketing; as well as contextual, cultural, and historical aspects and considerations.

**Content:** Media Arts

**Population:** General



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## 480920 - Two-Dimensional Media Design

**Grade Level:** 10 - 11

**Credits:** 1

**Description:** A proficient study and production of creative and conceptual aspects of designing and producing digital imagery, graphics and photography, including techniques, genres and styles from fine arts and commercial advertising, internet and multimedia, web design, industrial and virtual design. Students use a computer as an electronic drawing tool to solve visual communications and illustration problems in designing products. This course entails the use of current software for two-dimensional illustration, creating and integrating text, using color, and importing and exporting files, including Vector and Raster Images. Typical course topics include: aesthetic meaning, appreciation and analysis; composing, capturing, processing, and programming of imagery and graphical information; their transmission, distribution and marketing; as well as contextual, cultural and historical aspects and considerations.

**Content:** Media Arts

**Population:** General

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## 480921 - Digital Imaging

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** An accomplished study and production of creative and conceptual aspects of designing and producing digital imagery, graphics and photography, including techniques, genres and styles from fine arts and commercial advertising, internet and multimedia, web design, industrial and virtual design. Students use a computer as an electronic drawing tool to solve visual communications and illustration problems in designing authentic products. This course entails an accomplished use of current software for two-dimensional illustration, creating and integrating text, using color, and importing and exporting files. Typical course topics include: aesthetic meaning and analysis of computer generated works; composing, capturing, processing, and programming of imagery and graphical information; their transmission, distribution and marketing; as well as contextual, cultural and historical aspects and considerations.

**Content:** Media Arts

**Population:** General

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## 480922 - Advanced Production Design

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Advanced Product Design emphasizes an advanced and independent use of compositional theory, elements and principles of design, techniques and creative processes for effectively performing the function of persuasion and information through use of materials and media to create visual effects to produce original authentic works. Students will demonstrate an advanced level of creative expression to a variety of authentic design products (e.g. various print mediums such as magazines, newspapers, billboards, fictional and informational texts, product wrappers, displays etc.) through a purposeful arrangement of images and/or text and develop a strategic product presentation both independently and as a collaborative team. The course focuses on advanced computer generated designs as well as the use of various software and hardware; with an emphasis on students creating, producing, responding and connecting on/in visual art and new media. An in-depth independent study of career opportunities in media art is performed. Contemporary, cultural, and historical design may be studied.

**Content:** Media Arts

**Population:** General

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## 480950 - Co-op (Media Arts)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Cooperative Education for CTE courses provide supervised work site experience related to the student's identified career pathway. A student must be enrolled in a pathway course during the same school year that the co-op experience is completed. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements according to the Work Based Learning Guide.

**Content:** Media Arts

**Population:** General

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## 480951 - Internship (Media Arts)

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Internship for CTE courses provide supervised work-site experience for high school students who are enrolled in a pathway course. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester or longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less). All information referenced to the Work Based Learning Guide

**Content:** Media Arts

**Population:** General

# Industrial Education - Marine Technology (490300)

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## 490301 - Introduction to Marine Technology

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course introduces the student to outboard and inboard motors and boats, safety practices and the operation of two-cycle and four-cycle motors.

**Content:** Automotive Technology

**Population:** General

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## 490302 - Marine Electrical and Fuel Systems

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course presents electrical theory and applications for the marine technician including the marine battery, starter systems, alternator charging systems, and fuel systems.

**Content:** Automotive Technology

**Population:** General

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## 490313 - Mid-Section, Lower Unit, and Trim/Tilt

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents the theory and application necessary to repair and/or replace parts in the mid-section, lower unit, and trim/tilt systems in marine applications.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 490314 - Mid-Section, Lower Unit, and Trim/Tilt Lab

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents hands-on instruction in the theory necessary to repair and/or replace parts in the mid-section, lower units, and trim/tilt systems in marine applications.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 490315 - Powerhead Overhaul

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents instruction in overhauling two-cycle engines and repairing and/or replacing ignition systems.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 490316 - Powerhead Overhaul Lab

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course presents hands-on experience in overhauling two-cycle motors, tuning up motors, and repairing and/or replacing ignition systems.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 490317 - Special Topics - Marine Technology

**Grade Level:** 9 - 12

**Credits:** 1/2 - 1

**Description:** Instruction related to Industrial Education - Marine Technology but not described in the above courses.

**Content:** Commercial and Recreational Small Engine Technology

**Population:** General

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## 490320 - Mid-Section, Lower Unit, and Trim/Tilt

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course presents the theory and application necessary to repair and/or replace parts in the mid-section, lower unit, and trim/tilt systems in marine applications.

**Content:** Automotive Technology

**Population:** General

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## 490321 - Mid-Section, Lower Unit, and Trim/Tilt Lab

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course presents hands-on instruction in the theory necessary to repair and/or replace parts in the mid-section, lower units, and trim/tilt systems in marine applications.

**Content:** Automotive Technology

**Population:** General

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## 490322 - Four-Cycle Engine/Stern Drive

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course presents the theory and application of repair and overhaul methods for the four-cycle engines, and how to make repairs of various stern drive systems.

**Content:** Automotive Technology

**Population:** General

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## 490323 - Four-Cycle Engine/Stern Drive Lab

**Grade Level:** 10 - 12

**Credits:** 0.5

**Description:** This course presents hands-on training in the theory and application of repair and overhaul methods for the four-cycle engines, and how to make repairs of various stern drive systems.

**Content:** Automotive Technology

**Population:** General

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## 490911 - Process Fundamentals

**Grade Level:** 10 - 12

**Credits:** 1

**Description:** This course introduces the student to the technology used in chemical processing and testing. The student will learn about the fundamentals of pressure and fluid flow, temperature and heat flow, various unit operations and process equipment, measurement and control. The basic terminology of chemical technology and the procedures used by industry to control operations such as safety procedures, record-keeping, standard operating procedures, and regulatory compliance are addressed. Emphasis is placed on developing good problem-solving and communication skills.

**Content:** Industrial Chemical Technology

**Population:** General

# Industrial Education - Multiple Pathway Courses (499900)

Courses in this section of the state course list can be applied across multiple pathways

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## 499901 - Foundations of Energy

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Foundations of Energy is a course in career and technical education for secondary students. The course provides an overview of renewable and nonrenewable energy resources reflecting how energy impacts the environment and the economy from regional, state, national and global perspectives. Extensive hands-on laboratory activities are vital components of the curriculum. This course can provide a basis for students working toward various career pathways in energy such as Engineering Technology, Construction, and Manufacturing Technology. Specific areas include technology, construction technology, electrical technology, and industrial electronics.

NOTE: A content must be manually assigned for this course using the section tab in the SIS.

**Content:** None

**Population:** General

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## 499910 - Industrial Education Co-op

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Cooperative Education for CTE courses indicated within the KY Department of Education provide supervised work site experience related to the student's identified career major. Students who participate receive a salary for these experiences, in accordance with local, state and federal minimum wage requirements.

NOTE: A content must be manually assigned for this course using the section tab in the SIS

**Content:** None

**Population:** General

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## 499915 - Industrial Education Internship

**Grade Level:** 11 - 12

**Credits:** 1-3

**Description:** Internship for CTE Courses provide supervised work-site experience for high school students who have completed courses leading to a career pathway. Internship experiences consist of a combination of classroom instruction and field experiences. Students receiving pay for intern experience are those participating in an experience that is a semester or longer and have an established employee-employer relationship. A non-paid internship affects those students who participate on a short term basis.

NOTE: A content must be manually assigned for this course using the section tab in the SIS

**Content:** None

**Population:** General

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## 499920 - Basic Blueprint Reading

**Grade Level:** 10 - 12

**Credits:** .5

**Description:** This course presents basic applied math, lines, multiview drawings, symbols, various schematics and diagrams, dimensioning techniques, sectional views, auxiliary views, threads and fasteners, and sketching typical to all shop drawings. Safety will be emphasized as an integral part of the course.

**Content:** Basic Blueprint Reading

**Population:** General

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## 499925 - Basic Troubleshooting

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course explores the science of troubleshooting and the importance of proper maintenance procedures; how to work well with others, aids in communication, and trade responsibilities; examines actual troubleshooting techniques, aids in troubleshooting, and how to use schematics and symbols; focuses on specific maintenance tasks such as solving mechanical and electrical problems, breakdown maintenance, and the how's and whys of planned maintenance.

**Content:** Basic Troubleshooting

**Population:** General

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## 499930 - Industrial Safety

**Grade Level:** 10 - 12

**Credits:** .5

**Description:** This course provides practical training in industrial safety. The students are taught to observe general safety rules and regulations, to apply work site and shop safety rules, and to apply OSHA regulations. Students are expected to obtain certification in first aid and cardiopulmonary resuscitation.

**Content:** Industrial Safety

**Population:** General

# Visual and Performing Arts

## (500000)

Visual and Performing Arts courses provide students with the opportunity to develop artistic literacy- the knowledge and understanding required to participate authentically in the arts disciplines. Students also develop a fluency in the language(s) of the arts and develop their ability to create, perform/produce/present, respond, and connect through symbolic and metaphoric forms that are unique to the arts in general and in each of the arts disciplines. It is embodied in specific philosophical foundations and lifelong goals that enable an artistically literate person to transfer arts knowledge, skills, and capacities to other subjects, settings, and contexts.

**NOTE: Courses that are not fully aligned with the Kentucky Core Academic Standards are not eligible to fulfill the high school graduation requirement for Arts and Humanities.**



# Visual and Performing Arts - General (500100)

Courses that address the artistic processes, history, purposes and connections of the visual and performing arts disciplines.

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## 500107 - History and Appreciation of Visual and Performing Arts, Grades 6-8

**Grade Level:** 6 - 8

**Credits:** none

**Description:** Students are introduced to a survey of significant works, artists, and movements that have shaped the arts world and have influenced or reflected various periods of history in the arts disciplines of dance, music, theatre and visual art. Course content emphasizes the sequential evolution of art forms, techniques, symbols, and themes within those disciplines. The course covers the connections of the arts to cultural, social, political, and historical events throughout the world. Critical analysis of works from the disciplines, as they communicate and express the history, needs, and ideals of society and individuals is included. The course provides for students to experience creating and performing/presenting/producing their own works and to synthesize and relate knowledge and personal experiences to the arts.

**Content:** Arts and Humanities/History and Appreciation of the Visual and Performing Arts

**Population:** General

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## 500109 - History and Appreciation of Visual and Performing Arts Survey- Independent Study

**Grade Level:** 9 - 11

**Credits:** 1 HS

**Description:** Courses in The History and Appreciation of Visual and Performing Arts- independent study, may be conducted with instructors or professional artists as mentors or through a virtual delivery. Students are introduced to a survey of significant works, artists, and movements that have shaped the arts world and have influenced or reflected various periods of history in the arts disciplines of dance, music, theatre and visual art. Course content emphasizes the sequential evolution of art forms, techniques, symbols, and themes within those disciplines. The course covers the connections of the arts to cultural, social, political, and historical events throughout the world. Critical analysis of works from the disciplines, as they communicate and express the history, needs, and ideals of society and individuals is included. The course provides for students to experience creating and performing/presenting/producing their own works and to synthesize and relate knowledge and personal experiences to the arts.

**Content:** Arts and Humanities/History and Appreciation of the Visual and Performing Arts

**Population:** General

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## 500111 - History and Appreciation of Visual and Performing Arts Survey

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students are introduced to a survey of significant works, artists, and movements that have shaped the arts world and have influenced or reflected various periods of history in the arts disciplines of dance, music, theatre and visual art. Course content emphasizes the sequential evolution of art forms, techniques, symbols, and themes within those disciplines. The course covers the connections of the arts to cultural, social, political, and historical events throughout the world. Critical analysis of works from the disciplines, as they communicate and express the history, needs, and ideals of society and individuals is included. The course provides for students to experience creating and performing/presenting/producing their own works and to synthesize and relate knowledge and personal experiences to the arts.

**Content:** Arts and Humanities/History and Appreciation of the Visual and Performing Arts

**Population:** General

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## 500120 - College Introductory History and Appreciation of Visual and Performing Arts

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** A dual credit course arranged through agreement between a high school and a cooperating post-secondary institution where students are introduced to a survey of significant works, artists, and movements that have shaped the arts world and have influenced or reflected various periods of history in the arts disciplines of dance, music, theatre and/or visual art. Course content emphasizes the sequential evolution of art forms, techniques, symbols, and themes within those disciplines. The course covers the connections of the arts to cultural, social, political, and historical events throughout the world. Critical analysis of works from the disciplines, as they communicate and express the history, needs, and ideals of society and individuals is included. The course provides for students to experience creating and performing/presenting/producing their own works and to synthesize and relate knowledge and personal experiences to the arts. The course may cover one or multiple arts disciplines.

**Content:** Arts and Humanities/History and Appreciation of the Visual and Performing Arts

**Population:** General

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## 500190 - Visual and Performing Arts - Student Aide

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Aide courses offer students the opportunities to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students at the same or other grade levels.

**Content:** Arts and Humanities/History and Appreciation of the Visual and Performing Arts

**Population:** General

# Visual and Performing Arts - Crafts (500200)

Crafts courses offer a hands-on approach as Visual Art courses, but with a focus on crafts. A wide range of crafts may be surveyed or the course may focus on only one type of craft. Crafts courses explore types of crafts and the materials and ways in which these objects have been created for the aesthetic, practical, religious, spiritual, and/or cultural needs of people around the world or within a specific region. Students address aesthetic issues surrounding artists and artisans and engage in critiques of the art of crafts artists. Course may also include exploration of current craft forms.

**NOTE: Courses that are not fully aligned with the Kentucky Core Academic Standards are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Kentucky Core Academic Standards.**

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## 500210 - Crafts-Jewelry

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Jewelry courses engage students in the sequential learning of jewelry design, its media, techniques, and processes, and the fabrication of small-scale objects and individual pieces of jewelry. Students develop expressive and technical skills in creating jewelry and using art metals. Advanced design concepts in form and surface decoration may be explored. Study ranges from the early history and aesthetics of jewelry design to contemporary times. These traditional designs may be studied as a basis for students' personal design concepts. Students apply the elements of art and principles of design in creating jewelry and participate in critiques of their jewelry and metal works, the jewelry and metal works of other students, and those by professional jewelers and gemologists.

**Content:** Art

**Population:** General

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## 500211 - Crafts-Hand Crafts

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Crafts courses teach the same lessons as Creative Art-Comprehensive courses, but do so with a focus on crafts. These courses may survey a wide range of crafts, or they may focus on only one type of craft; possibilities include calligraphy, quilting, silk-screening, cake-decorating, tole-painting, maskmaking, knitting, crocheting, paper-making, and so on.

**Content:** Art

**Population:** General

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## 500212 - Crafts- Ceramics/Pottery

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Ceramics/Pottery courses engage students in a sequential learning experience that encompasses the history of ceramics, critiquing their own work and the work of others, aesthetic inquiry, and creative production. They develop knowledge of ceramic techniques and processes with an emphasis on creative design and craftsmanship. Experience includes, but is not limited to, clay modeling, hand building, coil building, casting and throwing on the potter's wheel. Students develop a working knowledge of kiln firing and glazing techniques.

**Content:** Art

**Population:** General

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## 500214 - Crafts- Fibers and Textile Design

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Fibers and Textile Design courses emphasize the application of the elements of art and principles of design in creating textile and fiber works using fiber and fiber-related media, techniques, and processes. Students gain an understanding of the suitability of design to materials and intent as they create textile works of art. Students study the history of fiber and textile art from a worldwide perspective. They engage in critiques of their textile and fiber work, the work of other students, and works of textile artists.

**Content:** Art

**Population:** General

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## 500215 - Crafts, Other

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Crafts courses that cannot be reflected in the accepted Kentucky Valid Course List course descriptions listed in this document where elective credit will be offered to students upon completion of the course.

**Content:** Art

**Population:** General

# Visual and Performing Arts - Dance

## (500300)

A group of instructional courses that address the performance and choreography of various kinds of dances, including but not limited to ballet, modern, jazz, ethnic, and folk dance. Students should discover the expressive elements of dance; know the terminology that is used to comprehend dance; have a clear sense of embodying dance performance; and be able to reflect, critique, and connect personal experience to dance.

**NOTE: Courses that are not fully aligned with the Kentucky Core Academic Standards are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Kentucky Core Academic Standards.**

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### 500310 - Dance- Choreography

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Choreography courses teach students how to arrange and direct dancers' movements. Course content includes application of the elements and principles of dance, study of historical and contemporary dance from a worldwide perspective, and instruction in critique. Students apply choreographic principles and dance forms to create fully developed choreography for formal or informal presentations. The student applies knowledge of dance to create a dance with a beginning, middle, and conclusion for an audience.

**Content:** Dance

**Population:** General

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### 500311 - Dance- Dance Technique

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Dance technique courses provide students with in-depth training in a specific form of dance (i.e. modern, jazz, ballet, contemporary, tap, etc.) allowing students to concentrate on improving the techniques and style that define each particular dance form.

**Content:** Dance

**Population:** General

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### 500312 - Dance- Dance Repertory

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students learn about choreographers' unique approaches to dance and choreography by studying and performing excerpts or complete works from a choreographer's repertoire. Dance repertory trains the dancers to capture the nuances and characteristics of the selected piece so that the artist's intent is fully expressed.

**Content:** Dance

**Population:** General

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## 500313 - Dance-Creative Movement

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Creative Movement courses develop students' ability to move expressively without being based on particular dance forms or on developing specific dance techniques.

**Content:** Dance

**Population:** General

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## 500314 - Dance History and Appreciation

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students study the purposes dance serves different civilizations (recreational, social, cultural, theatrical, educational, and liturgical, etc.) to expand knowledge of and ability to critique dance as an art form. Students learn the history of dance, build an aesthetic point of view, and develop a dance vocabulary. Students view or experience a variety of dance forms, styles and choreographic approaches to provide a historical and aesthetic context.

**Content:** Dance

**Population:** General

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## 500315 - Dance, Independent Study

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Independent Study in Dance provides training in a specific area of emphasis (ballet, tap, jazz, modern, musical theater, world dance, etc.) or in the areas of choreography, production, criticism, etc. These courses conducted with instructors or professional artists as mentors. Credit is awarded to dance in arts education. Students expand their expertise in a particular form or style, to explore a topic in greater detail, or to develop more advanced skills.

**Content:** Dance

**Population:** General

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## 500316 - Dance, Other

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Dance courses that cannot be reflected in the accepted Kentucky Valid Course List course descriptions listed in this document where elective credit will be offered to students upon completion of the course.

**Content:** Dance

**Population:** General

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## 500317 - Dance, Workplace Experience/Internship

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students gain work experience in a field of professional dance. Students are matched with a working professional or institution with expertise in that area of interest. Goals are typically set cooperatively between the student, teacher, and the working professional and/or institution. These courses include classroom activities and professional learning opportunities where teachers monitor progress toward meeting the goals of the experience, and require personal and professional reflection of the experience.

**Content:** Dance

**Population:** General

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## 500350 - Dance Pathway- Technique I

**Grade Level:** 9 - 10

**Credits:** 1 HS

**Description:** The Dance Pathway Technique I course provides students with training in a specific form of dance (i.e. modern, jazz, ballet, contemporary, tap, etc.) allowing students to concentrate on developing proficient techniques and style that define each particular dance form. The class is introductory in nature but includes creative movement, choreography, and dance appreciation.

**Content:** Dance

**Population:** General

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## 500351 - Dance Pathway- Technique II

**Grade Level:** 10 - 11

**Credits:** 1 HS

**Description:** Dance Pathway Technique II courses provide students with in-depth training in a specific form of dance (i.e. modern, jazz, ballet, contemporary, tap, etc.) allowing students to concentrate on improving techniques and style that define each particular dance form. This course concentrates on improving technique including creative movement, choreography, and dance appreciation. An emphasis will be placed on developing a student's ability to move expressively.

**Content:** Dance

**Population:** General

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## 500352 - Dance Pathway- Technique III

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** The Dance Technique III course provides experiences in one or more dance forms (e.g., modern, ballet, jazz, tap, cultural and ethnic forms). This course concentrates on refining technique at an accomplished level, including creative movement, choreography, and dance appreciation. An emphasis will be placed on expanding knowledge of dance as an art form and developing a student's ability to evaluate dance performances.

**Content:** Dance

**Population:** General

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## 500353 - Dance Pathway- Technique IV

**Grade Level:** 12 - 12

**Credits:** 1 HS

**Description:** The Dance Pathway Technique IV course provides experiences in one or more dance forms (e.g., modern, ballet, jazz, tap, cultural and ethnic forms). This course concentrates on refining technique at an advanced level, including creative movement, choreography, and dance appreciation. An emphasis will be placed on teaching students how to arrange and direct dancers' movements. Course content includes application of the elements and principles of dance, study of historical and contemporary dance from a worldwide perspective, and instruction in critique.

**Content:** Dance

**Population:** General



# Visual and Performing Arts - Theatre (500500)

A group of instructional courses that address the theatrical performance and various aspects of theatre production. Students should discover the expressive elements of theatre; know the terminology that is used to comprehend theatre; have a clear sense of embodying theatrical performance; and be able to reflect, critique, and connect personal experience to theatre. Students perform established works as well as their original work.

**NOTE: Courses that are not fully aligned with the Kentucky Core Academic Standards are not eligible to fulfill the high school graduation requirement for Arts and Humanities.**

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## 500511 - Introduction to the Theatre

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Introduction to Theatre is designed to develop a knowledge of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances. Introduction to Theatre covers multiple styles of dramatic literature and uses a variety of connections to historical and cultural contexts. Introduction to Theatre sets the stage for both a performance and a technical theatre emphasis and students engage on a basic level with skills and knowledge in and of: acting and improvisation, theatre design and technology, theatre history and appreciation, dramatic literature and critique, and theatre administration.

**Content:** Drama

**Population:** General

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## 500512 - Theatre- Stagecraft - Comprehensive

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Theatre Stagecraft-Comprehensive courses are intended to promote students' experience and skill development in one or more aspects of theatrical production. Initial courses are introductory in nature, while more advanced courses focus on improving technique, expand students' exposure to different types of theatrical techniques and traditions, and increasing their capacity to participate in public performances. Career opportunities will be addressed.

**Content:** Drama

**Population:** General

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## 500513 - Theatre- Acting/Performance

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students develop experience and skill development in one or more aspects of theatrical production, concentrating on acting and performance skills. Introductory courses explore fundamental techniques. Advanced courses focus on extending and refining technique, expanding students' exposure to different types of theatrical craft and traditions, and increasing their participation in public productions. These courses may also provide a discussion of career and post-secondary placement opportunities.

**Content:** Drama

**Population:** General

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## 500514 - Theatre- Stagecraft

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students develop a basic understanding of the various aspects of theatrical production, such as lighting, costuming, sound, set construction, makeup, stage management, and the use of computer applications to support these functions. These courses provide a discussion of career and post-secondary placement opportunities.

**Content:** Drama

**Population:** General

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## 500515 - Theatre- Directing

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students develop skills in translating a script into a final production and are usually taken after other drama courses. Directing courses enable each student to create an artistic vision and develop a personal aesthetic. Students are exposed to different types of theatrical techniques and traditions. They direct the performances of others (either in scenes or in a full production). These courses may also provide a discussion of career and post-secondary placement opportunities.

**Content:** Drama

**Population:** General

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## 500516 - Theatre- Playwriting

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students refine skills to create a script suitable for theatrical production and are taken after other drama courses. Students develop a personal voice, style, and aesthetic by examining various playwrights and different types of theatrical techniques and traditions. Students write original scenes, one-act plays, or full scripts. These courses provide a discussion of career and post-secondary placement opportunities.

**Content:** Drama

**Population:** General

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## 500517 - Theatre- History and Literature of Theatre

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** History and Literature of the Theater courses explore in depth the structure, elements, and style of dramatic compositions, and, as an extension, how the dramatic literature influenced theatrical production and acting styles throughout history. Some courses may focus more on the literature component than on the theater (with increased emphasis on critique and analysis), but most courses connect these subjects, exploring their interrelationships. Major contributors (playwrights, directors, and so on) and the architecture of the theater may also be included as topics of study.

**Content:** Drama

**Population:** General

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## 500518 - Theatre- Independent Study

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students focus on a specific area of emphasis within the discipline. These courses are often conducted with instructors or professional artists as mentors, and enable students to independently explore one or more aspects of theater. Independent Study courses assist students in expanding expertise in a particular theatrical genre or style, exploring a topic in greater detail, or developing more advanced skills.

**Content:** Drama

**Population:** General

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## 500519 - Theatre - Other

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Theatre courses that cannot be reflected in the accepted Kentucky Valid Course List course descriptions listed in this document where elective credit will be offered to students upon completion of the course.

**Content:** Drama

**Population:** General

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## 500520 - Theatre- IB Theatre Arts

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** IB Theatre Arts courses prepare students to take the International Baccalaureate exams at either the Subsidiary or Higher level. IB Theatre arts develop the students' aesthetic and creative faculties, offer training in awareness and criticism of theatre, and enable students to create quality works of their own. Students will perform studio works and research theatrical works; the research component is designed to investigate world theatre and theatre history. NOTE: Courses that are not fully aligned with the Kentucky Program of Studies are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Program of Studies.

**Content:** Drama

**Population:** General

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## 500521 - Middle School Introduction to the Theatre

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Introduction to the Theatre provides an overview of the art, conventions, and history of theatre. Although experiential exercises may be included, the courses focus on learning about drama/theatre rather than performance. Students study dramatic elements, elements of production and elements of performance. Students also study major developments in dramatic literature and/or major playwrights, the history and formation of theatre as a cultural tradition, and critical appreciation of drama/theatre.

**Content:** Drama

**Population:** General

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## 500522 - Middle School Drama/Stagecraft - Comprehensive

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Drama/Stagecraft-Comprehensive courses are intended to promote students' experience and skill development in one or more aspects of theatrical production. Initial courses are introductory in nature, while more advanced courses focus on improving technique, expand students' exposure to different types of theatrical techniques and traditions, and increasing their capacity to participate in public performances. Career opportunities will be addressed.

**Content:** Drama

**Population:** General

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## 500523 - Middle School Acting/Performance

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Drama - Acting/Performance courses are intended to promote students' experience and skill development in one or more aspects of theatrical performance. Initial courses are introductory while advanced courses focus on improving performance skills, expanding exposure to different theatrical techniques, and increasing capacity to participate in public performances.

**Content:** Drama

**Population:** General

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## 500524 - Middle School Drama/Stagecraft

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Drama/Stagecraft courses are intended to promote students' experience and skill development in one or more aspects of theatrical production, but with a concentration in stagecraft (lighting, sound, costumes, set construction, makeup, stage management, etc.) Initial courses are introductory in nature, while more advanced courses focus on improving skills and technique.

**Content:** Drama

**Population:** General

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## 500527 - Middle School Drama/Theatre History

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** These courses address the historical development of drama/theatre. Students will study literature of theatre and how it influenced production and performance through history. Major contributors and the architecture of the theatre will be topics of study.

**Content:** Drama

**Population:** General

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## 500528 - Middle School Drama/Stagecraft - Independent Study

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Drama/Stagecraft - Independent Study, often conducted with instructors of artists as mentors, enables students to explore a particular theatrical form in more detail and depth than other courses. Advancing skills, building confidence for professional or apprenticeship auditions, and gaining experience in public performance are emphasized. Career opportunities will be addressed.

**Content:** Drama

**Population:** General

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## 500529 - Middle School Drama/Stagecraft - Other

**Grade Level:** 6 - 8

**Credits:** 0

**Description:** Middle School Drama/Stagecraft courses that cannot be reflected in the accepted Kentucky Valid Course List course descriptions listed in this document where elective credit will be offered to students upon completion of the course.

**Content:** Drama

**Population:** General

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## 500530 - Theatre- Theatre Workplace Experience/Internship

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students work in a theatre related field. They are matched with a working professional who has a similar area of interest. Goals are set cooperatively between the student, teacher, and the working professional. These courses include classroom activities where teachers monitor progress toward meeting the goals of the experience and include additional study of the field and personal reflection of the experience.

**Content:** Drama

**Population:** General

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## 500550 - Theatre Pathway, Performance II

**Grade Level:** 10 - 11

**Credits:** 1 HS

**Description:** Theatre Pathway, Performance II course is designed to develop knowledge of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances at a proficient level. Theatre Performance II covers multiple styles of dramatic literature and uses a variety of connections to historical and cultural contexts. The course builds on the foundational skills of Introduction to Theatre engaging students with a deeper level of exploration of acting and directing skills.

**Content:** Drama

**Population:** General

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## 500551 - Theatre Pathway, Performance III

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** Theatre Pathway, Performance III course is designed to build foundational skills with a deeper exploration of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances at an accomplished level. Theatre II Performance also provides students with a deeper level of exploration of acting and directing skills.

**Content:** Drama

**Population:** General

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## 500552 - Theatre Pathway, Performance IV

**Grade Level:** 12 - 12

**Credits:** 1 HS

**Description:** Theatre Pathway, Performance IV course is designed to refine knowledge of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances at an advanced level. The course covers multiple styles of dramatic literature and uses a variety of connections to historical and cultural contexts. Theatre IV Performance Emphasis refines the foundational skills of Intro to Theatre, Theatre II and Theatre III; engaging students with a deeper level of exploration of acting and directing skills.

**Content:** Drama

**Population:** General

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## 500560 - Theatre Pathway, Technical II

**Grade Level:** 10 - 11

**Credits:** 1 HS

**Description:** Theatre Pathway, Technical II course is designed to develop knowledge of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances at a proficient level. The course covers multiple styles of dramatic literature and uses a variety of connections to historical and cultural contexts. The course builds on the foundational skills of Introduction to Theatre and engages students with a deeper level of exploration of technical theatre and design skills.

**Content:** Drama

**Population:** General

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## 500561 - Theatre Pathway, Technical III

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** Theatre Pathway, Technical III course is designed to develop knowledge of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances at an accomplished level. The course covers multiple styles of dramatic literature and uses a variety of connections to historical and cultural contexts. The course refines the foundational skills of Introduction to Theatre and Theatre Pathway, Technical II course, engaging students with a deeper level of exploration of technical theatre and design skills.

**Content:** Drama

**Population:** General

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## 500562 - Theatre Pathway, Technical IV

**Grade Level:** 12 - 12

**Credits:** 1 HS

**Description:** Theatre Pathway, Technical IV course is designed to further refine knowledge of theatrical concepts and techniques that will enable students to create new theatre pieces (work-in-progress/complete), perform existing theatre works and respond to both studio exercises and performances at an advanced level. The course covers multiple styles of dramatic literature and uses a variety of connections to historical and cultural contexts. The course further refines the foundational skills of Intro to Theatre, Theatre II Technical Theatre Emphasis, and Theatre III Technical Theatre Emphasis engaging students with a deeper level of exploration of technical theatre and design skills.

**Content:** Drama

**Population:** General

# Visual and Performing Arts - Film Arts

## (500600)

A group of instructional programs intended to promote students' experience and skill in development in one or more aspects of the use of film to create artistic works. Students may be involved in the production and/or criticism of various kinds of videos (cinema), and photography.

**NOTE: Courses that are not fully aligned with the Kentucky Program of Studies are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Program of Studies.**

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### 500611 - Photography

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Photography courses engage students in a sequential learning process applying photographic media, techniques, and processes. These courses focus on development of photographic compositions through manipulation of the elements of art and principles of design. Students learn to make meaningful visual statements with an emphasis on personal creative expression to communicate ideas, feelings, or values. The history of photography, historic movements, image manipulation, critical analysis, and some creative special effects may also be included in this course. Students engage in critiques of their photographic images, the works of other students, and those by professional photographers. Photography courses may employ traditional film processes and/or digital and other electronic processes.

**Content:** Photojournalism

**Population:** General

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### 500612 - Cinematography/Video Production

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Cinematography/Video Production courses emphasize the application of the elements of art and principles of design relative to the history and development of cinema, television, and video production. Students experience a variety of media, techniques, and processes as they study production values and various styles of cinematography. Students engage in critiques of their cinematic or video productions, those of other students, and productions of professional cinematographers or video artists.

**Content:** Art

**Population:** General

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## 500615 - Computer Assisted/Generated Art

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Course enables students to discover and explore how the computer can be used in producing various forms of artwork for a variety of purposes (e.g. fine art, graphic design, publication, and commercial art). Course provides the opportunities to become more adept in both the art form and the use of the computer. A variety of programs and hardware are used. Students may incorporate traditional art media.

**Content:** Art

**Population:** General

# Visual and Performing Arts - Visual Arts

## (500700)

Visual Arts courses provide students with knowledge and opportunities to explore a variety of art forms and to create individual works of art. Courses address design elements and principles, language, materials, and processes used to produce various kinds of visual arts. As students advance they are encouraged to develop their own creative styles. Although the focus of most of these courses is on production of art, study of major artists, art movements, and styles may also be included. Students produce and present their original artworks as well as respond to their work and the works of others. Students synthesize and relate knowledge and personal experiences to make art and relate artistic ideas and works with societal, cultural, and historical context to deepen understanding. Career opportunities in visual art may also be explored.

**NOTE: Courses that are not fully aligned with the Kentucky Core Academic Standards are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Kentucky Core Academic Standards.**

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### 500711 - Visual Art - Comprehensive

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop the knowledge and explore an art form, to create individual works of art, and provide a discussion and exploration of career opportunities in the art world. Students examine the language, materials, media, and processes of a particular art form and the elements of art and principles of design supporting a work of art. Advance instruction encourages the students to develop their own artistic styles. Although Comprehensive Visual Arts courses focus on creation, inclusion of the study and analysis of major artists, art movements, and styles is included.

**Content:** Art

**Population:** General

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### 500712 - Visual Art- Drawing/Painting

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students focus on the blend and relationships that occur between drawing and painting. Attention is given to two-dimensional work and utilizes one or more mediums, such as pen-and-ink, pencil, chalk, watercolor, tempera, oils, and acrylics. Advanced students extend and refine knowledge in the creative process. They are encouraged to develop their own artistic styles. The course may emphasize either drawing or painting or combine both.

**Content:** Art

**Population:** General

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## 500713 - Visual Art- Sculpture

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Sculpture courses promote creative expression through three-dimensional works. Students explore real and abstract sculpture through subtractive (carving), additive (modeling), and assemblage techniques in one or more media. They produce real and abstract sculptures while incorporating elements of art and principles of design. A study of historical and contemporary sculpture and sculptors from a worldwide perspective, and instruction and practice in the critique process are addressed.

**Content:** Art

**Population:** General

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## 500714 - Visual Art- Art Portfolio

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Art Portfolio courses are for students who desire to pursue art studies after high school. Students will create work that clearly demonstrates new technical skills, increasing conceptual thinking and reflecting their personal interests. Individual critiques and planned group activities will help each student achieve at a competitive level. This course covers any identified Visual Arts discipline. Course may be used in conjunction with an AP or IB Studio Art course.

**Content:** Art

**Population:** General

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## 500716 - Visual Art- AP Studio Art - Drawing Portfolio

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** AP Studio Art - Drawing courses are designed for students with a professional or academic interest in the art of drawing. These courses focus on a variety of concepts and approaches in Drawing, enabling students to demonstrate a depth of knowledge of the processes and a range of abilities and versatility with media, technique, problem solving, and scope. Such conceptual variety can be demonstrated through either the use of one or the use of several media. Students refine their skills and create artistic works to be submitted via a portfolio to the College Board for evaluation.

**Content:** AP Studio Art Drawing

**Population:** General

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## 500717 - Visual Art- IB Art/Design

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** This course provides experiences that develop students' aesthetic and creative faculties, experiences in various visual art forms, offers training in awareness and criticism of art, and enable students to create quality works of art of their own. Students perform both studio and research work. The research component is designed to investigate particular topics or concepts of interest in further detail. Students evidence their learning when they take the IB Art/Design exam at the end of the course.

**NOTE:** Courses that are not fully aligned with the Kentucky Program of Studies are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Program of Studies.

**Content:** Art

**Population:** General

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## 500718 - Visual Arts - Independent Study

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Visual Arts - Independent Study courses focus on a specific area of emphasis within Visual Arts. These courses are often conducted with instructors or professional artists as mentors, and enable students to independently explore specific work within this art form, such as ceramics, animation, fiber and textiles, paintings, creating a portfolio, and the like. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular form or style, to explore a topic in greater detail, or to develop more advanced skills.

**Content:** Art

**Population:** General

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## 500719 - Visual Arts - Other

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Visual Art courses that cannot be reflected in the accepted Kentucky Valid Course List course descriptions listed in this document where elective credit will be offered to students upon completion of the course.

**Content:** Art

**Population:** General

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## 500720 - Visual Art- Graphic Design

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Graphic Design courses emphasize the application of the elements of art and principles of design and provide study of their application in visual communications design problems through the purposeful arrangement of images, symbols, and text to communicate a message. These courses also include investigations of how use of the computer has influenced the creation of contemporary graphic and digital designs. Students analyze and use design principles in their visual communications design work and understand aesthetic issues of visual communications design. Students study visual communications designs from the history of art, contemporary visual communications design, and many world cultures. Students engage in critiques of their visual communications designs, the designs of other students, and designs by professionals.

**Content:** Art

**Population:** General

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## 500721 - Visual Art- AP Art History

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Designed to parallel college-level Art History courses, AP Art History courses provide the opportunity for students to critically examine architecture, sculpture, painting, and other art forms within their historical and cultural contexts. In covering the art of several centuries (not necessarily in chronological order), students learn to identify different styles, techniques, media, and influences and to formulate and articulate their reactions to various kinds of artwork.

**Content:** AP History of Art

**Population:** General

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## 500722 - Visual Art- AP Studio Art - Two Dimensional Design Portfolio

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** AP Studio Art - Two- Dimensional courses are designed for students with a professional or academic interest in two-dimensional art. These courses focus on a variety of concepts and approaches in Drawing, and 2-D Design, enabling the students to demonstrate a range of abilities and versatility with media, technique, problem solving, and scope. Such conceptual variety can be demonstrated through either the use of one or the use of several media. Students refine their skills and create artistic works to submit via a portfolio to the College Board for evaluation.

**Content:** AP Studio Art (2-D Design)

**Population:** General

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## 500723 - Visual Art- AP Studio Art - Three Dimensional Design Portfolio

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** This course is designed for students with a professional or academic interest in three-dimensional art. These courses focus on a variety of concepts and approaches in 3-D Design, enabling students to demonstrate a range of abilities and versatility with media, technique, problem solving, and scope. Such conceptual variety can be demonstrated through either the use of one or the use of several media. Students refine their skills and create artistic works to submit via a portfolio to the College Board for evaluation.

**Content:** AP Studio Art (3-D Design)

**Population:** General

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## 500724 - Visual Art- Advertising Design/Commercial Art

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Advertising Design/ Commercial Art courses emphasize the application of the elements of art and principles of design used in the field of advertising and commercial art. The courses offer practical experiences in generating advertisements, commercial art, and logos, executing layouts, illustration, displays, lettering, and works with a variety of media, techniques, and processes. They also include preparing artwork for reproduction. These courses provide a historical and contemporary view of advertising art and commercial art. Students engage in critiques of their work, the works of other students, and that of professional advertising and commercial designers.

**Content:** Art

**Population:** General

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## 500725 - Visual Art- Printmaking

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Printmaking courses provide experience in a variety of traditional and digital printmaking media, techniques, and processes. Students create realistic and abstract prints and communicate meaning by applying elements of art and principles of design and making cultural and historical connections. Students learn and practice the critique process in discussing their own work, that of other students, and the work of professional printmakers.

**Content:** Art

**Population:** General

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## 500730 - Visual Arts - Workplace Experience/Internship

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Workplace Experience courses provide students with work experience in a field related to visual arts and its elements of art and principles of design usage. Students are matched with a working professional who has a similar area of interest. Goals are typically set cooperatively between the student, teacher, and the working professional (although students are not necessarily paid). These courses include classroom activities where teachers monitor progress toward meeting the goals of the experience and include additional study of the field and personal reflection of the experience.

**Content:** Art

**Population:** General

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## 500750 - Visual Art- Pathway I

**Grade Level:** 9 - 10

**Credits:** 1 HS

**Description:** Visual Arts Pathway I provides students with knowledge and opportunities to experience a variety of art forms and to create individual works of art at a proficient level. Students will learn about the elements and principles, language, materials, and processes used to produce various kinds of visual arts. Students will begin to develop their own creative styles. Students will learn about the production of art, study of the structures, purposes, careers and art history. Emphasis is placed on creating, presenting, responding and connecting.

**Content:** Art

**Population:** General

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## 500751 - Visual Art- Pathway II

**Grade Level:** 10 - 11

**Credits:** 1 HS

**Description:** Visual Arts Pathway II provides students with the ability to begin to determine and produce artworks in their own specialization in art. Students will use the elements and principles, language, materials, and processes to produce various kinds of visual arts at an accomplished level. Students will continue to develop their own creative styles. Students will continue to learn about the production of art, study of the structures, purposes, careers and art history. Emphasis is placed on creating, presenting, responding and connecting.

**Content:** Art

**Population:** General

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## 500752 - Visual Art- Pathway III

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** Visual Arts Pathway III provides students with the ability to expand and produce artworks in their own specialization in art at an advanced level. Students will use the elements and principles, language, materials, and processes to produce artworks. Students will begin to refine their own creative style. Students will continue to learn about the production of art, study of the structures, purposes, careers and art history. Emphasis is placed on creating, presenting, responding and connecting.

**Content:** Art

**Population:** General

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## 500753 - Visual Art- Pathway IV

**Grade Level:** 12 - 12

**Credits:** 1 HS

**Description:** Visual Arts Pathway IV offers the opportunity to create a professional body of work at an advanced level that reflects personal style and talent. Students will work independently on their own aesthetic endeavors and create their own sense of style. Students will continue exploring elements, principles, composition and art history to create and inform their artwork. Students will create a professional portfolio showcasing their work.

**Content:** Art

**Population:** General

# Visual and Performing Arts - Music (500900)

Music courses are designed to provide music students the opportunity to achieve independent music literacy. Music students learn to perform established works as well as their original works. Music students learn to choose their repertoire of music, to synthesize and relate knowledge and personal experiences to make music, and to relate artistic ideas and works with societal, cultural and historical context to deepen understanding.

**NOTE: Courses that are not fully aligned with the Kentucky Core Academic Standards are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Kentucky Core Academic Standards.**

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## 500911 - Music-General Music

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** General Music courses include the study of music including the elements of music, music styles, historical and cultural contexts; including study of instrumental music (acoustic and electronic) and vocal music. Although performance is a part of the course the focus is on learning about music. Public performance may be a part of the learning process.

**Content:** Music

**Population:** General

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## 500912 - Music- Music History/Appreciation

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop an understanding of music and its importance in relation to the human experience. Learning experiences include guided listening, analysis, discussion and hands-on experimentation – including informal performance, improvisation, or composition – focused on how various styles of music apply musical elements to create expressive or aesthetic impact.

**Content:** Music History

**Population:** General

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## 500913 - Music- General Band

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop techniques for playing brass, woodwind, and percussion instruments as a means to studying and performing a variety of concert band literature styles. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences. The course may include creating and performing students' own compositions. Band courses may be offered on multiple skill levels to accommodate student proficiency. Band courses may include marching activities for a portion of the year.

**Content:** Band

**Population:** General



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## 500914 - Music- Concert/Marching Band

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop techniques for playing brass, woodwind, and percussion instruments as a means to studying and performing a variety of concert and marching band literature styles. Students learn appropriate care, handling, and maintenance of musical instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences.

**Content:** Band

**Population:** General

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## 500915 - Music- Concert Band

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop techniques for playing brass, woodwind, and percussion instruments as a means to studying and performing a variety of concert band literature styles. Students learn appropriate care, handling, and maintenance of musical instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences. The course may include creating and performing students' own compositions.

**Content:** Band

**Population:** General

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## 500916 - Music- Marching Band

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Courses in Marching Band are designed to promote students' playing technique for brass, woodwind, and percussion instruments, and cover appropriate band literature styles primarily for marching band performances. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences. The course may include creating and performing students' own compositions. Marching band courses are offered on multiple skill levels to accommodate proficiency and include instruction at novice, intermediate or advanced levels.

**Content:** Band

**Population:** General

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## 500917 - Music- Symphonic Band

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Courses in Symphonic Band are designed to promote students' playing technique for brass, woodwind, and percussion instruments, and cover a variety of music styles primarily for concert performances. Literature for Symphonic Band courses is usually more advanced and incorporates orchestral literature transcribed for band. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences. The course may include creating and performing students' own compositions. Symphonic band courses are offered on multiple skill levels to accommodate proficiency and include instruction at novice, intermediate, or advanced levels.

**Content:** Band

**Population:** General

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## 500918 - Music- Orchestra

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Orchestra courses develop students' abilities to play string instruments, along with brass, woodwind, and percussion instruments, covering a variety of orchestral literature styles. Full orchestras include strings along with woodwind, brass, and percussion instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences. The course may include creating and performing students' own compositions. Orchestra courses are offered on multiple skill levels to accommodate proficiency and include instruction at novice, intermediate, or advanced levels.

**Content:** Orchestra

**Population:** General

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## 500919 - Music- String Orchestra

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop technique for playing string instruments as a means to studying and performing a variety of orchestral string orchestra literature styles. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences. The course may include creating and performing students' own compositions. Full orchestras include strings along with woodwind, brass, and percussion instruments; string orchestras use traditional string instruments in string orchestra instrumental configurations. String Orchestra courses are offered on multiple skill levels to accommodate proficiency and include instruction at beginning, intermediate, or advanced levels.

**Content:** Orchestra

**Population:** General

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## 500920 - Music- Contemporary Band / Jazz Instrumental Ensemble

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students study and perform a variety of contemporary or popular styles, such as jazz and rock, while also cultivating students' technique on instruments appropriate to the style(s) performed -- brass, woodwind, string, percussion instruments, and/or electronic. These ensembles may include both instrumental and vocal music. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed and applied through rehearsal and performance, improvisation, and/or creating and performing students' own compositions.

**Content:** Jazz/Stage Band

**Population:** General

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## 500921 - Music- Instrumental Ensemble

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students study and perform a variety of traditional styles such as traditional chamber music, and contemporary or popular styles, such as jazz and rock, while also cultivating students' technique on instruments appropriate to the style(s) performed -- brass, woodwind, string, percussion instruments, and/or electronic. These ensembles may include both instrumental and vocal music such a jazz combo with a singer. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed and applied through rehearsal and performance, improvisation, and/or creating and performing students' own compositions.

**Content:** Instrumental Music

**Population:** General

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## 500922 - Music- Piano/Keyboard

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students explore the fundamentals of music and basic keyboard techniques such as scales, chords, melodic lines, and harmonic structure. These courses include more advanced keyboard techniques. Formal and informal performances are included as part of piano course instructional programs. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed and applied through rehearsal and performance, improvisation, and/or creating and performing students' own compositions.

**Content:** Music Keyboard

**Population:** General

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## 500923 - Music- Guitar

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students explore the fundamentals of music and guitar-playing techniques, such as strumming and chords. These courses may also include more advanced guitar-playing techniques. Formal and informal performances are included as part of guitar course instructional programs. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed and applied through rehearsal and performance, improvisation, and/or creating and performing students' own compositions.

**Content:** Instrumental Music

**Population:** General

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## 500924 - Music- Individual Technique - Instrumental Music

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students extend and refine instrumental techniques. These courses are conducted individually or in small group. Formal and informal performances are included as part of the instructional program. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed and applied through rehearsal and performance, improvisation, and/or creating and performing students' own compositions.

**Content:** Instrumental Music

**Population:** General

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## 500925 - Music- Chorus

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students develop vocal skills in the context of a large choral ensemble as a means to study and perform a variety of styles. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, and/or creating and performing students' own compositions.

**Content:** Choral Music

**Population:** General

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## 500926 - Music- Vocal Ensemble

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students refine vocal techniques and the ability to sing parts in small ensembles such as madrigal groups. Course goals include the development of solo singing ability and emphasize one or several ensemble literature styles. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, and/or creating and performing students' own compositions.

**Content:** Vocal Music

**Population:** General

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## 500927 - Music- Individual Technique , Vocal Music

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Students extend and refine vocal techniques beyond the ability to sing in groups. These courses are conducted individually or in small groups. Formal and informal performances are included as part of the instructional program. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, and/or creating and performing students' own compositions.

**Content:** Vocal Music

**Population:** General

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## 500928 - Music Theory

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Music Theory courses provide students with an understanding of the fundamentals of music and include one or more of the following topics: melody, harmony, composition, arrangement, analysis, aural development, and sight reading.

**Content:** Theory of Music

**Population:** General

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## 500929 - AP Music Theory

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** Courses in AP Music Theory are designed to be the equivalent of a first-year music theory college course. AP Music Theory develops student's understanding of musical structure and compositional procedures. Usually intended for students already possessing performance-level skills, AP Music Theory extends and builds upon students' knowledge of intervals, scales, chord structures, meter and rhythm patterns, and their interaction in musical compositions. Music notation, analysis, composition, and aural skills are important components of the course.

**Content:** AP Music Theory

**Population:** General

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## 500930 - IB Music

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** IB Music courses prepare students to take the International Baccalaureate Music exam at either the Subsidiary or Higher level. IB Music courses develop students' knowledge and understanding of music, through training in musical skills (listening, performing, and composing), exposure to music theory, and formulation of a historic and global awareness of musical forms and styles. Historical, theoretical, and practical studies are suggested by the IB Curriculum Board.

**NOTE:** Courses that are not fully aligned with the Kentucky Program of Studies are not eligible to fulfill the high school graduation requirement for Arts and Humanities. In order to fulfill the graduation requirement, courses must fully address the standards listed in the Program of Studies.

**Content:** Music

**Population:** General

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## 500931 - Music- Composition/Songwriting

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students express themselves through creating music. These courses use conventional or non-conventional notation, and can include instrumental and vocal music. Along with musical instruments and voice, technology may be used for creating, recording, and performing music.

**Content:** Music

**Population:** General

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## 500935 - Music- Music Independent Study

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students focus on a specific area of emphasis within music. Students independently explore specific areas within the study of music. Examples include composition, advanced performance technique and/or coaching, instrument making and professional management. Students expand their expertise in a particular form or style, explore a topic in greater detail, or develop more advanced skills. These courses are often conducted with instructors or professional musicians as mentors.

**Content:** Music

**Population:** General

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## 500940 - Music Workplace Experience/Internship

**Grade Level:** 9 - 12

**Credits:** 1 HS

**Description:** Students work in a music related field. They are matched with a working professional who has a similar area of expertise. Goals are set cooperatively between the student, teacher, and the working professional. These courses include classroom activities where teachers monitor progress toward meeting the goals of the experience and include additional study of the field and personal reflection of the experience.

**Content:** Music

**Population:** General

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## 500950 - Music- Instrumental Pathway I

**Grade Level:** 9 - 10

**Credits:** 1 HS

**Description:** Students develop techniques for playing brass, woodwind, string, keyboard, percussion, and/or emerging technology instruments as a means to studying and performing a variety of instrumental literature styles while also cultivating students' technique on instruments appropriate to the style(s) performed. Students learn appropriate care, handling, and maintenance of musical instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Instrumental Pathway courses may be offered on multiple skill levels to accommodate student proficiency and may include course titles such as Concert Band, Symphonic Band, Advanced Band, Wind Ensemble, etc. Music- Instrumental Pathway courses may include marching activities for a portion of the year.

**Content:** Music

**Population:** General

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## 500951 - Music- Instrumental Pathway II

**Grade Level:** 10 - 11

**Credits:** 1 HS

**Description:** Students refine techniques for playing brass, woodwind, string, keyboard, percussion, and/or emerging technology instruments as a means to studying and performing a variety of instrumental literature styles while also cultivating students' technique on instruments appropriate to the style(s) performed. Students practice appropriate care, handling, and maintenance of musical instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are refined through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Instrumental Pathway courses may be offered on multiple skill levels to accommodate student proficiency and may include course titles such as Concert Band, Symphonic Band, Advanced Band, Wind Ensemble, etc. Music- Instrumental Pathway courses may include marching activities for a portion of the year.

**Content:** Music

**Population:** General

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## 500952 - Music- Instrumental Pathway III

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** Students refine and develop personal techniques for playing brass, woodwind, string, keyboard, percussion, and/or emerging technology instruments as a means to studying and performing a variety of instrumental literature styles while also cultivating students' technique on instruments appropriate to the style(s) performed. Students practice appropriate care, handling, and maintenance of musical instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are

refined through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Instrumental Pathway courses may be offered on multiple skill levels to accommodate student proficiency and may include course titles such as Concert Band, Symphonic Band, Advanced Band, Wind Ensemble, etc. Music- Instrumental Pathway courses may include marching activities for a portion of the year.

**Content:** Music

**Population:** General

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## 500953 - Music- Instrumental Pathway IV

**Grade Level:** 12 - 12

**Credits:** 1 HS

**Description:** Students refine and personalize techniques for playing brass, woodwind, string, keyboard, percussion, and/or emerging technology instruments as a means to studying and performing a variety of instrumental literature styles while also cultivating students' technique on instruments appropriate to the style(s) performed. Students practice appropriate care, handling, and maintenance of musical instruments. Critical analysis and problem solving, collaboration, and musical skills and understandings are refined through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Instrumental Pathway courses may be offered on multiple skill levels to accommodate student proficiency and may include course titles such as Concert Band, Symphonic Band, Advanced Band, Wind Ensemble, etc. Music- Instrumental Pathway courses may include marching activities for a portion of the year.

**Content:** Music

**Population:** General

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## 500960 - Music- Vocal Pathway I

**Grade Level:** 9 - 10

**Credits:** 1 HS

**Description:** Students develop vocal skills in the context of a large and/or small choral ensemble or solo as a means to study and perform a variety of vocal ensemble styles. Vocalists may perform with an instrumental ensemble. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Vocal Pathway courses may be offered on multiple skill levels to accommodate student proficiency.

**Content:** Music

**Population:** General

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## 500961 - Music- Vocal Pathway II

**Grade Level:** 10 - 11

**Credits:** 1 HS

**Description:** Students refine vocal skills in the context of a large and/or small choral ensemble or solo as a means to study and perform a variety of vocal ensemble styles. Vocalists may perform with an instrumental ensemble. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Vocal Pathway courses may be offered on multiple skill levels to accommodate student proficiency.

**Content:** Music

**Population:** General

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## 500962 - Music- Vocal Pathway III

**Grade Level:** 11 - 12

**Credits:** 1 HS

**Description:** Students refine and develop personal vocal skills in the context of a large and/or small choral ensemble or solo as a means to study and perform a variety of vocal ensemble styles. Vocalists may perform with an instrumental ensemble. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Vocal Pathway courses may be offered on multiple skill levels to accommodate student proficiency.

**Content:** Music

**Population:** General

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## 500963 - Music- Vocal Pathway IV

**Grade Level:** 12 - 12

**Credits:** 1 HS

**Description:** Students refine and personalize vocal skills in the context of a large and/or small choral ensemble or solo as a means to study and perform a variety of vocal ensemble styles. Vocalists may perform with an instrumental ensemble. Critical analysis and problem solving, collaboration, and musical skills and understandings are developed through rehearsal and performance experiences, improvisation, and/or creating and performing students' own compositions. Music- Vocal Pathway courses may be offered on multiple skill levels to accommodate student proficiency.

**Content:** Music

**Population:** General

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## 500999 - Music - Other

**Grade Level:** 6 - 12

**Credits:** 1 HS

**Description:** Music courses that cannot be reflected in the accepted Kentucky Valid Course List course descriptions listed in this document where elective or required credit will be offered to students upon completion of the course.

**Content:** Music

**Population:** General



**ROTC**  
**(580000)**

# ROTC - Air Force Junior ROTC (580100)

AFJROTC is an elective offering students the chance to become a better citizen and a leader - confident, self-reliant and self-disciplined. Students explore the civilian, industrial and military aspects of aerospace. College bound students may receive an Air Force Academy nomination or an Air Force ROTC scholarship, if qualified. Or, they may receive college credit for the first year of an Air Force ROTC four-year college program. Career-minded students may be able to enter the Air Force at a pay higher than most enlistees. Activities for cadets include: color guard team, drill team, field trips around the United States, flights aboard military aircraft, community service projects, opportunities for attending ROTC college days, formal social events and dances, summer leadership encampments, model rocketry club, public speaking events of middle and elementary schools, and qualified students can join the Kitty Hawk National Honor Society. Uniforms, textbooks, insignia and other equipment are provided free.

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## 580134 - Air Force JROTC 1

**Grade Level:** 9 - 12

**Credits:**

**Description:** This is the first course in a four course sequence designed to develop Aerospace Science (AS), Leadership (LE) and Wellness skills in preparation for a career in the U.S. Air Force. Each course in the sequence includes a selection from the AS 100 to 500, LE 100 to 500 and Wellness education as identified in the AFJROTC Curriculum. <http://www.au.af.mil/au/holmcenter/AFJROTC/Curriculum.asp>

**Content:** Military Science (JROTC)

**Population:** General

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## 580135 - Air Force JROTC 2

**Grade Level:** 9 - 12

**Credits:**

**Description:** This is the second course in a four course sequence designed to develop Aerospace Science (AS), Leadership (LE) and Wellness skills in preparation for a career in the U.S. Air Force. Each course in the sequence includes a selection from the AS 100 to 500, LE 100 to 500 and Wellness education as identified in the AFJROTC Curriculum. <http://www.au.af.mil/au/holmcenter/AFJROTC/Curriculum.asp>

**Content:** Military Science (JROTC)

**Population:** General

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## 580136 - Air Force JROTC 3

**Grade Level:** 9 - 12

**Credits:**

**Description:** This is the third course in a four course sequence designed to develop Aerospace Science (AS), Leadership (LE) and Wellness skills in preparation for a career in the U.S. Air Force. Each course in the sequence includes a selection from the AS 100 to 500, LE 100 to 500 and Wellness education as identified in the AFJROTC Curriculum. <http://www.au.af.mil/au/holmcenter/AFJROTC/Curriculum.asp>

**Content:** Military Science (JROTC)

**Population:** General

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## 580137 - Air Force JROTC 4

**Grade Level:** 9 - 12

**Credits:**

**Description:** This is the fourth course in a four course sequence designed to develop Aerospace Science (AS), Leadership (LE) and Wellness skills in preparation for a career in the U.S. Air Force. Each course in the sequence includes a selection from the AS 100 to 500, LE 100 to 500 and Wellness education as identified in the AFJROTC Curriculum. <http://www.au.af.mil/au/holmcenter/AFJROTC/Curriculum.asp>

**Content:** Military Science (JROTC)

**Population:** General

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## 580138 - Air Force JROTC Leadership

**Grade Level:** 9 - 12

**Credits:**

**Description:** This class is intended to challenge students who have completed or are in the process of completing their fourth year JROTC curriculum and desire advanced study of key aerospace subjects. The Honors course will challenge students to perform as peer leaders and to further their knowledge of air and space operations, missions of auxiliary organizations, and to be well versed on the evolving mission of the Air Force. Lesson objectives will include, but will not be limited to, the following: comprehend the role and mission of Air Expeditionary Force, comprehend the importance of understanding the dynamics of international terrorism to the modern day Air Force, explain the importance and historical value of organizations such as the Tuskegee Airmen and Civil Air Patrol, describe the value and significance to current day military operation of Joint Operations, value and demonstrate the importance of being an exemplary role-model and leader to underclassmen.

**Content:** Military Science (JROTC)

**Population:** General

# ROTC - Army Junior Reserve Officer Training Corp (580200)

Junior ROTC is a series of elective courses taught by retired military personnel with a goal to motivate, develop, and orient participants to be better Americans by educating them in leadership positions. Instructors and upper classmen are role models for students developing universal strengths like integrity, dependability and self-discipline and universal values like commitment, respect and loyalty. Students learn the rights, responsibilities and privilege of citizenship, develop personal responsibility, build life skills and rise to leadership opportunities.

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## 580240 - Army Junior ROTC Level I

**Grade Level:** 9 - 12

**Credits:**

**Description:** Nine lessons in Level I cover: wear of the military uniform, military customs and courtesies, the National Anthem, the American flag, and the purpose of JROTC.

**Content:** Military Science (JROTC)

**Population:** General

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## 580241 - Army Junior ROTC Level 2

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course will focus on the principles of leadership and marching also known as Drill and Ceremonies

**Content:** Military Science (JROTC)

**Population:** General

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## 580242 - Army Junior ROTC Level 3

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course will develop their study skills, communication skills, and learn about resolving conflicts

**Content:** Military Science (JROTC)

**Population:** General

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## 580243 - Army Junior ROTC Level 4

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course will discuss diet, exercise, and drug awareness and introduces the cadets to first aid.

**Content:** Military Science (JROTC)

**Population:** General

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## 580244 - Army JROTC Leadership

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides students with an additional opportunity to hone military leadership skills.

**Content:** Military Science (JROTC)

**Population:** General

# ROTC- Navy/Marines (580300)

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## 580310 - Navy JROTC 1

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** To introduce students to the meaning of citizenship, the elements of leadership, and the value of scholarship in attaining life goals; promote an awareness of the importance of a healthy lifestyle, including physical fitness, a proper diet, and controlling stress; drug awareness; provide the principles of health and first aid, geography and survival skills and an overview of Naval ships and aircraft. These elements are pursued at the fundamental level. The course includes introduction to the NJROTC program; introduction to Leadership, Citizenship and the American Government; introduction to Wellness, Fitness, and First Aid to include diet, exercise and drug awareness, introduction to Geography, Orienteering, Survival and Map Reading Skills; Financial Skills and introduction to the U. S. Navy.

**Content:** Military Science (JROTC)

**Population:** General

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## 580311 - Navy JROTC 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** To build on the general introduction provided in Naval Science 1, to further develop the traits of citizenship and leadership, and to introduce cadets to the technical areas of naval science and the role of the U. S. Navy in maritime history and the vital importance of the world's oceans to the continued well-being of the United States. The course includes ongoing instruction into Leadership; introduction to Maritime History, including the American Revolution, Civil War, the rise of the U. S. to world power status, World Wars 1 and 2, the Cold War Era and the 1990s and Beyond; introduction to Nautical Sciences to include Maritime Geography, Oceanography, Meteorology, Astronomy, and Physical Sciences.

**Content:** Military Science (JROTC)

**Population:** General

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## 580312 - Navy JROTC 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Broaden the understanding of students in the operative principles of military leadership, the concept and significance of teamwork, the intrinsic value of good order and discipline in the accomplishment of objectives, and the importance of sea power and national security. Students gain a more in-depth knowledge of Naval ships and aircraft and an introduction to marine navigation and seamanship. The course includes instruction in Sea Power and National Security, Naval Operations and Support Functions, Military Law, and International Law and the Sea. Provides introduction to Ship Construction and Damage Control, Shipboard Organization and Watch Standing, Basic Seamanship, Marine Navigation, and Naval Weapons and Aircraft. Ongoing instruction in leadership, citizenship and discipline.

**Content:** Military Science (JROTC)

**Population:** General

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## 580313 - Navy JROTC 4

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** Focused primarily on practical leadership techniques and implementation. The intent is to assist seniors in understanding leadership and improving their leadership skills by putting them in positions of leadership, under supervision, then helping them analyze the reasons for their varying degrees of success throughout the year. Classroom activities include seminars, reading assignments, classroom presentations, and practical work with younger cadets. Seniors are mentored/guided in their preparation for life after high school to include college preparation, scholarship applications, and the variety of choices that are available to them. The course includes instruction in theoretical and applied aspects of leadership, training, and evaluation of performance. Students will become aware of the techniques used to create motivation, develop goals and activities for a work group, and the proper ways to set a leadership example. Students are provided access to ACT/SAT prep courses, guidance in selecting a college and pursuing available scholarships, and mentoring in establishing long range life goals.

**Content:** Military Science (JROTC)

**Population:** General

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## 580314 - Navy JROTC Leadership

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides students with an additional opportunity to hone military leadership skills.

**Content:** Military Science (JROTC)

**Population:** General

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## 580320 - Marine Corps JROTC 1

**Grade Level:** 9 - 12

**Credits:**

**Description:** LEADERSHIP EDUCATION I (LE-I) This first year of the program provides cadets with an introduction to both leadership and citizenship. The first year also gives the new cadets exposure to personal growth and responsibility and establishes a foundation of military structure and tradition.

**Content:** Military Science (JROTC)

**Population:** General

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## 580321 - Marine Corps JROTC 2

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** LEADERSHIP EDUCATION II (LE-II) The second year continues the leadership and citizenship classes of LE-I. During LE-II the students receive instruction in General Military Subjects with more structure and tradition than in LE-I, as well as the introduction of civilian marksmanship training and land navigation training with the map and compass. This year also provides additional learning experiences in personal growth and responsibility, as well as citizenship.

**Content:** Military Science (JROTC)

**Population:** General

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## 580322 - Marine Corps JROTC 3

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** LEADERSHIP TRAINING III (LE-III) In LE-III, cadets will begin to use their leadership training as they assume positions of increased authority and responsibility within the program. In this year also, detailed instruction on personal finances is presented, as well as other preparation for life beyond high school.

**Content:** Military Science (JROTC)

**Population:** General

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## 580323 - Marine Corps JROTC 4

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** LEADERSHIP TRAINING IV (LE-IV) This is a year when cadets really bring together all their previous learning experiences in the MCJROTC program. Senior cadets will conduct formations and inspections, as well as supervise certain training events with younger cadets. LE-4 cadets continued to be challenged academically with requirements for research projects and independent studies and progress reports.

**Content:** Military Science (JROTC)

**Population:** General

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## 580324 - Marine Corps Leadership

**Grade Level:** 9 - 12

**Credits:** 1

**Description:** This course provides students with an additional opportunity to hone military leadership skills.

**Content:** Military Science (JROTC)

**Population:** General



# ROTC/Jr. Guard - Junior National Guard (580500)

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## 580510 - Jr. Guard Skill Level 1A

**Grade Level:** 9 - 12

**Credits:** E

**Description:** In this skill level the Junior Guardsman will learn their general orders, warrior ethos, army values, army ranks, Jr. Guard creed, physical fitness, phonetic alphabet, military time, the effects of drugs and alcohol, department of defense, history of the army, and drill and ceremonies. Students will also be required to participate in rigorous physical training (PT) twice a week and an end of year Field Training Exercise (FTX). Students must maintain a military appearance (haircut and shaved face) and wear their uniforms once per week.

**Content:** Jr. National Guard

**Population:** General

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## 580511 - Jr. Guard Skill Level 1B

**Grade Level:** 9 - 12

**Credits:** E

**Description:** In this skill level the Guardsman will learn flag history, first aid, study techniques, cold weather injuries, hot weather injuries, military organization, command structure, and drill and ceremonies. Students will also be required to participate in rigorous physical training (PT) twice a week and an end of year Field Training Exercise (FTX). Students must maintain a military appearance (haircut and shaved face) and wear their uniforms once per week.

**Content:** Jr. National Guard

**Population:** General

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## 580512 - Jr. Guard Skill Level 2A

**Grade Level:** 9 - 12

**Credits:** E

**Description:** In this skill level the Guardsman will learn leadership I, flags II, marine rank, tactical movements, goal setting, suicide prevention, violence prevention, map reading, leading a platoon, Swiss seats, one rope bridge, and drill and ceremonies. Students will also be required to participate in rigorous physical training (PT) twice a week and an end of year Field Training Exercise (FTX). Students must maintain a military appearance (haircut and shaved face) and wear their uniforms once per week.

**Content:** Jr. National Guard

**Population:** General

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## 580513 - Jr. Guard Skill Level 2B

**Grade Level:** 9 - 12

**Credits:** E

**Description:** In this skill level the Guardsman will learn land navigation, freedom, guard history, basic rifle marksmanship, medals and ribbons, diversity I, patriotism, writing skills, leading physical fitness, and drill and ceremonies. Students will also be required to participate in rigorous physical training (PT) twice a week and an end of year Field Training Exercise (FTX). Students must maintain a military appearance (haircut and shaved face) and wear their uniforms once per week.

**Content:** Jr. National Guard

**Population:** General

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## 580514 - Jr. Guard Skill Level 3A

**Grade Level:** 10 - 12

**Credits:** E

**Description:** In this skill level the Guardsman will learn leadership II, navy rank, budgeting, health and nutrition, ASVAB prep, college prep, memory, test taking tips, etiquette, and drill and ceremonies. Students will also be required to participate in rigorous physical training (PT) twice a week and an end of year Field Training Exercise (FTX). Students must maintain a military appearance (haircut and shaved face) and wear their uniforms once per week.

**Content:** Jr. National Guard

**Population:** General

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## 580515 - Jr. Guard Skill Level 3B

**Grade Level:** 10 - 12

**Credits:** E

**Description:** In this skill level the Guardsman will learn their air force rank, historical American documents, diversity II, national security, lifelong learning, communications, problem solving, ethical choices, credit, and drill and ceremonies. Students will also be required to participate in rigorous physical training (PT) twice a week and an end of year Field Training Exercise (FTX). Students must maintain a military appearance (haircut and shaved face) and wear their uniforms once per week.

**Content:** Jr. National Guard

**Population:** General

# **Special Education**

## **(600000)**

# Special Education - Self Contained/FMD (600100)

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## 600101 - Self Contained FMD

**Grade Level:** 0 - 12

**Credits:**

**Description:** This is an all-inclusive course for FMD Students in the alternate assessment program ONLY. Students in a diploma track program should be scheduled into courses identified with the proper content's state course code.

**Content:** Elementary Education

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

---

## 600102 - FMD Life Skills

**Grade Level:** 0 - 12

**Credits:**

**Description:** This is a course designed to teach basic Life Skills for non-mainstreamed FMD Students

**Content:** Life Skills (Special Education)

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

---

## 600103 - Adapted PE

**Grade Level:** 0 - 12

**Credits:**

**Description:** This is a PE course designed specifically for those needing modifications to their PE program

**Content:** Physical Education

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

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## 600104 - FMD - Math

**Grade Level:** 6 - 12

**Credits:**

**Description:** This is a math course for Middle and High School FMD Students in the alternate assessment program ONLY. Students in a diploma track program should be scheduled into courses identified with the proper content's state course code. **This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Elementary Education

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

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## 600105 - FMD - English Language Arts

**Grade Level:** 6 - 12

**Credits:**

**Description:** This is an English/Language Arts course for Middle and High School FMD Students in the alternate assessment program ONLY. Students in a diploma track program should be scheduled into courses identified with the proper content's state course code. **This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Elementary Education

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

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## 600106 - FMD - Social Studies

**Grade Level:** 6 - 12

**Credits:**

**Description:** This is a social studies course for Middle and High School FMD Students in the alternate assessment program ONLY. Students in a diploma track program should be scheduled into courses identified with the proper content's state course code.

**Content:** Elementary Education

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

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## 600107 - FMD - Science

**Grade Level:** 6 - 12

**Credits:**

**Description:** This is a science course for Middle and High School FMD Students in the alternate assessment program ONLY. Students in a diploma track program should be scheduled into courses identified with the proper content's state course code.

**Content:** Elementary Education

**Population:** Other Health Impaired

**Population:** Functional Mental Disability

**Population:** Multiple Disabilities

**Population:** Autistic

**Population:** Traumatic Brain Injury

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## 600117 - Self Contained EBD - Life Skills

**Grade Level:** 0 - 12

**Credits:**

**Description:** This is a course designed to re-enforce Life Skills for non-mainstreamed EBD Students

**Content:** Life Skills (Special Education)

**Population:** Multiple Disabilities

**Population:** Emotional Behavior Disability

# Special Education - Resource and Collaboration

## (600200)

Resource courses should be identified with the proper content's regular state course code. Please use the multi-subject/multi-grade codes within those program areas as needed.

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### 600206 - Speech Therapy

**Grade Level:** 0 - 12

**Credits:**

**Description:** This course provides specific interventions for students receiving speech therapy

**Content:** Speech Therapy

**Population:** Speech Impaired

---

### 600210 - Elementary Resource

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** This course provides specific interventions in Elementary content areas for Special Education Students

**Content:** Elementary Education

**Population:** Specific Learning Disability

**Population:** Other Health Impaired

**Population:** Mild Mental Disability

**Population:** Multiple Disabilities

**Population:** Orthopedically Impaired

**Population:** Developmentally Delayed

**Population:** Autistic

**Population:** Traumatic Brain Injury

**Population:** Emotional Behavior Disability

---

### 600290 - Special Education Life Skills

**Grade Level:** 0 - 12

**Credits:** 0

**Description:** This is a course designed to re-enforce Life Skills for special education students

**Content:** Life Skills (Special Education)

**Population:** Specific Learning Disability

**Population:** Other Health Impaired

**Population:** Mild Mental Disability

**Population:** Multiple Disabilities

**Population:** Orthopedically Impaired

**Population:** Developmentally Delayed

**Population:** Autistic

**Population:** Traumatic Brain Injury

**Population:** Emotional Behavior Disability

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## 600299 - Special Education Collaboration

**Grade Level:** 0 - 12

**Credits:**

**Description:** This course is to be used when a course is placed in the schedule for record keeping purposes only. It indicates that the special education teacher is NOT the teacher delivering the core content instruction.

**Content:** Varies

**Population:** Specific Learning Disability

**Population:** Other Health Impaired

**Population:** Mild Mental Disability

**Population:** Multiple Disabilities

**Population:** Orthopedically Impaired

**Population:** Developmentally Delayed

**Population:** Autistic

**Population:** Traumatic Brain Injury

**Population:** Emotional Behavior Disability



# Elementary

(700000)

# Elementary - Preschool (700500)

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## 700510 - Preschool Self-Contained

**Grade Level:** -1 - 0

**Credits:**

**Description:** The preschool program is designed to be developmentally appropriate for young children.

"Developmentally appropriate" is defined in law to mean that the program focuses on the child's physical, intellectual, social and emotional development, including interpersonal, intrapersonal, and socialization skills.

**Content:** Elementary Education

**Population:** Preschool

# Elementary - Primary (701000)

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## 701010 - Primary Self-Contained

**Grade Level:** 0 - 3

**Credits:**

**Description:** This is a general primary classroom which includes all content areas

**Content:** Elementary Education

**Population:** General

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## 701020 - Primary Language Arts

**Grade Level:** 0 - 3

**Credits:**

**Description:** Content is designed to build a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. Students use writing-to-learn and writing-to-demonstrate learning strategies, as well as the writing process and criteria for effective writing, to develop writing in a variety of forms and for multiple audiences and purposes. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes, situations, and audiences. The integration of inquiry skills and technology with the other strands allows students to discover and communicate ideas and information. Course adheres to Program of Studies requirements.

**Content:** English Language Arts

**Population:** General

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## 701030 - Primary Reading

**Grade Level:** 0 - 3

**Credits:**

**Description:** Focuses on skill acquisition and reading technique; demonstrates word attack skills and reading comprehension strategies

**Content:** Reading

**Population:** General

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## 701040 - Primary Math

**Grade Level:** 0 - 3

**Credits:**

**Description:** This course is designed so the student accomplishes all the End of Primary Mathematics Program of Studies by the time he/she completes 3rd Grade. Primary level problem solving, mathematical communication, connections, mathematical reasoning, and multiple representations should be a part of the mathematics curriculum. Accuracy is an integral part of the mathematics program.

**Content:** Mathematics

**Population:** General

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## 701050 - Primary Social Studies

**Grade Level:** 0 - 3

**Credits:**

**Description:** The social studies program for the primary grades includes essential content from five areas of social studies: government and civics, culture and society, economics, historical perspective, and geography. The essential content descriptions for the five social studies areas are not course or grade-level descriptions. Rather, they describe a comprehensive and integrated social studies program to be completed during the primary school experience.

**Content:** Social Studies

**Population:** General

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## 701060 - Primary Science

**Grade Level:** 0 - 3

**Credits:**

**Description:** Primary level science contains the physical, earth/space, and life science concepts shown in the conceptual understandings chart. These concepts will be taught through scientific inquiry and applications and connections. Kentucky's Academic Expectations 2.2 through 2.6 provide ways of thinking that help students link physical, earth/space, and life science concepts to scientific inquiry and applications and connections.

**Content:** Integrated Science (Non-High School)

**Population:** General

# Elementary - Intermediate (702000)

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## 702010 - Intermediate Self-Contained

**Grade Level:** 4 - 5

**Credits:**

**Description:** This is a general intermediate classroom which includes all content areas

**Content:** Elementary Education

**Population:** General

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## 702020 - Intermediate Language Arts

**Grade Level:** 4 - 5

**Credits:**

**Description:** Content is designed to build a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. Students use writing-to-learn and writing-to-demonstrate learning strategies, as well as the writing process and criteria for effective writing, to develop writing in a variety of forms and for multiple audiences and purposes. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes, situations, and audiences. The integration of inquiry skills and technology with the other strands allows students to discover and communicate ideas and information. Course adheres to Program of Studies requirements.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** English Language Arts

**Population:** General

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## 702030 - Intermediate Reading

**Grade Level:** 4 - 5

**Credits:**

**Description:** Focuses on skill acquisition and reading technique; demonstrates word attack skills and reading comprehension strategies.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 702040 - Intermediate Math

**Grade Level:** 4 - 5

**Credits:**

**Description:** This course is designed so the student accomplishes all the Intermediate Program of Studies by the time he/she completes 5th Grade. Intermediate level problem solving, mathematical communication, connections, mathematical reasoning, and multiple representations should be a part of the mathematics curriculum. Accuracy is an integral part of the mathematics program. Systematic review of earlier concepts and procedures is also an integral part of the intermediate program. Features of the intermediate level mathematics programs include active, hands-on work with manipulatives (concrete materials) and appropriate technologies.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Mathematics

**Population:** General

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## 702050 - Intermediate Social Studies - Grade 4

**Grade Level:** 4 - 4

**Credits:** None

**Description:** Intermediate level social studies utilizes the five strands of social studies (historical perspective, geography, economics, government and civics, and culture and society) in an integrated program which focuses on a different grade-level context each year. For example, grade four focuses on Kentucky studies and regions of the United States through integration of all five strands. Grade five includes an integrated focus on United States history. Regardless of the grade-level context, students incorporate each of the five categories of social studies to explore the content

**Content:** Social Studies

**Population:** General

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## 702055 - Intermediate Social Studies - Grade 5

**Grade Level:** 5 - 5

**Credits:** none

**Description:** Intermediate level social studies utilizes the five strands of social studies (historical perspective, geography, economics, governments and civics, and culture and society) in an integrated program which focuses on a different grade-level context each year. For example, grade four focuses on Kentucky studies and regions of the United States through integration of all five strands. Grade five includes an integrated focus on United States history. Regardless of the grade-level context, students incorporate each of the five categories of social studies to explore the content.

**Content:** Social Studies

**Population:** General

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## 702060 - Intermediate Science

**Grade Level:** 4 - 5

**Credits:**

**Description:** Intermediate level science contains the physical, earth/space, and life science concepts shown in the conceptual understandings chart. These concepts will be taught through scientific inquiry and applications and connections. Kentucky's Academic Expectations 2.2 through 2.6 provide ways of thinking that help students link physical, earth/space, and life science concepts to scientific inquiry and applications and connections.

**Content:** Integrated Science (Non-High School)

**Population:** General

# Elementary - Other (703000)

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## 703001 - Elementary Homeroom

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** This course is to be used for non-self-contained elementary homeroom attendance courses.

**Content:** Elementary Education

**Population:** General

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## 703010 - Elementary Art

**Grade Level:** 0 - 5

**Credits:**

**Description:** Creative Arts courses provide students with knowledge and opportunities to explore a variety of art forms and to create individual works of art. Courses address design elements and principles, language, materials, and processes used to produce various kinds of visual arts. As students advance they are encouraged to develop their own creative styles. Although the focus of most of these courses is on production of art, study of major artists, art movements, and styles may also be included. Career opportunities in visual art may also be explored.

**Content:** Art

**Population:** General

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## 703020 - Elementary Arts and Humanities

**Grade Level:** 0 - 5

**Credits:**

**Description:** Addresses the historic development, cultural contexts, aesthetic qualities, elements and principles, and creative processes for the visual and performing arts.

**Content:** Arts and Humanities/History and Appreciation of the Visual and Performing Arts

**Population:** General

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## 703021 - Elementary Dance/Creative Movement

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Dance Appreciation courses expand knowledge of dance as an art form, and develop the students' ability to evaluate dance performances. Learning about dance in historical and cultural contexts may also be included as a course objective. Creative Movement courses develop students' ability to move expressively without being based on particular dance forms or on developing specific dance techniques.

**Content:** Dance

**Population:** General

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## 703022 - Elementary Drama

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Initial courses are introductory while advanced courses focus on improving performance skills, expanding exposure to different theatrical techniques, and increasing capacity to participate in public performances. Students study dramatic elements, elements of production and elements of performance. Students also study the history and formation of theatre as a cultural tradition, and critical appreciation of drama/theatre.

**Content:** Drama

**Population:** General

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## 703030 - Elementary Music

**Grade Level:** 0 - 5

**Credits:**

**Description:** General Music courses include the study of music including the elements of music, music styles, historical and cultural contexts; including study of instrumental music (acoustic and electronic) and vocal music. Although performance is a part of the course the focus is on learning about music. Public performance may be a part of the learning process.

**Content:** Music

**Population:** General

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## 703031 - Elementary Band

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** General Band courses develop technique for playing brass, woodwind, and percussion instruments, and cover a variety of non-specified band literature styles (concert, marching, symphonic, and modern styles). Classes can be large ensemble including all three instrument families (woodwind, brass, percussion) or in separate homogeneous classes according to family (woodwind or brass or percussion).

**Content:** Band

**Population:** General

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## 703032 - Elementary Chorus

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Chorus courses provide the opportunity to sing and perform a variety of music styles for men's and/or women's voices, and are designed to develop vocal techniques and abilities.

**Content:** Choral Music

**Population:** General

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## 703033 - Elementary Orchestra

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** Orchestra courses develop students' abilities to play string instruments, along with brass, woodwind, and percussion instruments, covering a variety of orchestral literature styles.

**Content:** Orchestra

**Population:** General



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## 703040 - Elementary Technology Competency

**Grade Level:** 0 - 5

**Credits:**

**Description:** This course is designed to increase technology competency through use of basic computer programs (i.e. word processing, spreadsheets, Power Point, internet, etc.)

**Content:** Computer Laboratory

**Population:** General

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## 703050 - Elementary Library

**Grade Level:** 0 - 5

**Credits:**

**Description:** The area of Library Media emphasizes teaching students to become information literate and lifelong learners; working in collaborative partnerships to meet individual needs; and providing access to information resources and technology.

**Content:** Library

**Population:** General

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## 703060 - Elementary Literacy

**Grade Level:** 0 - 5

**Credits:**

**Description:** Literacy includes, reading, writing, and the creative and analytical acts involved in producing and comprehending text. This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).

**Content:** Literacy

**Population:** General

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## 703065 - Elementary Reading Intervention

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** This course description is reserved for targeted intervention or remediation courses in Reading.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Reading

**Population:** General

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## 703066 - Elementary Mathematics Intervention

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** This course is designed for students who need additional assistance beyond the grade level math course. This course uses intervention strategies to build and support the student's mathematical understanding. This course should be taken in conjunction with the grade level math course.

**This course is connected to Median Student Growth Percentile (MSGP) in the Professional Growth and Effectiveness System (PGES).**

**Content:** Mathematics

**Population:** General

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## 703071 - K-3 Primary Physical Education

**Grade Level:** 0 - 3

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education program in accordance with the Kentucky Core Academic Standards for Primary Physical Education. The emphasis is on spatial awareness, motor skills, movement patterns, movement concepts, principles and strategies to preform physical activities to promote life-long physical activity. K-3 Primary Physical Education will also focus on lifetime physical wellness by providing opportunities to develop appropriate social skills by learning about sportsmanship and behaviors that affect the enjoyment (physical, mental and emotional) of physical activity.

**Content:** Physical Education

**Population:** General

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## 703072 - 4-5 Intermediate Physical Education

**Grade Level:** 4 - 5

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education program in accordance with the Kentucky Core Academic Standards for Intermediate Physical Education. The emphasis of this course is to develop motor and manipulative skills to perform various physical activities. This course also provides opportunities for students to become more responsible for their overall health status, and to promote lifetime physical activities. Students will also learn that social, mental and emotional health is strengthened by regular involvement in physical activities.

**Content:** Physical Education

**Population:** General

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## 703081 - K-3 Primary Health

**Grade Level:** 0 - 3

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Health Education program in accordance with the Kentucky Core Academic Standards for Primary Health Education. The emphasis of this course is to teach students about making choices and decisions each day that promote an individual's physical well-being, the prevention of illness and disease, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy. This course should also emphasize how nutritious foods are necessary for growth, development and maintenance of healthy bodies along with the prevention of unintentional injuries

**Content:** Health Education

**Population:** General

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## 703082 - 4-5 Intermediate Health

**Grade Level:** 4 - 5

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Health Education program in accordance with the Kentucky Core Academic Standards for Intermediate Health Education. The emphasis of this course is to teach students about making choices and decisions each day that promote an individual's physical well-being, the prevention of illness and disease, and the ability to remain, physically, mentally, spiritually, socially and emotionally healthy. This course should also emphasize how nutritious foods are necessary for growth, development and maintenance of healthy bodies along with how safe behavior protects a person from danger and lessens the effects of harmful situations.

**Content:** Health Education

**Population:** General

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## 703088 - K-3 Primary Integrated Health & Physical Education

**Grade Level:** 0 - 3

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education and Health Education program by combining the Kentucky Core Academic Standards for Primary Physical Education and Health Education into one course.

**Content:** Integrated Health and Physical Education (6-12)

**Population:** General

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## 703089 - 4-5 Intermediate Integrated Health & Physical Education

**Grade Level:** 4 - 5

**Credits:**

**Description:** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education and Health Education program by combining the Kentucky Core Academic Standards for Intermediate Physical Education and Health Education into one course.

**Content:** Integrated Health and Physical Education (6-12)

**Population:** General

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## 703090 - Elementary Practical Living

**Grade Level:** 0 - 5

**Credits:**

**Description:** This course is designed so that its helps the student accomplish the learning goals and academic expectations associated with Practical Living

**Content:** Practical Living/Life Skills for Elective Credit

**Population:** General

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## 703095 - Elementary Conduct

**Grade Level:** 0 - 5

**Credits:** 0

**Description:** This course is to be used for conduct grade courses included in the schedule for report card purposes.

**Content:** Practical Living/Life Skills for Elective Credit

**Population:** General

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## 703099 - Elementary Gifted

**Grade Level:** 0 - 12

**Credits:** 0

**Description:**

**Content:** Elementary Education

**Population:** Gifted

# Miscellaneous Courses

## (900000)

# Miscellaneous Courses (901000)

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## 901001 - Middle/Secondary Homeroom

**Grade Level:** 5 - 12

**Credits:** 0

**Description:** This course should be used for middle school or high school homeroom attendance courses.

**Content:** Advisor/Advisee (6-12)

**Population:** General

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## 901005 - Experience-based work

**Grade Level:** 11 - 12

**Credits:** 1

**Description:** Work based experience provides an opportunity for students to work with a team consisting of a school advisor and potential employer to develop and improve on skills necessary to be successful in the workforce. The skills that are explored include job search, interviewing, job shadowing, communication skills, professionalism and working as a team. Career advising is an important element of this course and should take place in a real world context. The course may involve academic projects aligned to skills applied at the workplace. The code would also be used for Experienced Based Career Education course.

**Content:** Career Options, High School

**Population:** General

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## 901010 - Practical Living/Life Skills

**Grade Level:** 0 - 12

**Credits:**

**Description:** This course is designed so that it helps the student accomplish the learning goals and academic expectations associated with Practical Living

**Content:** Practical Living/Life Skills for Elective Credit

**Population:** General

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## 902010 - Technology Competency (Computer Lab)

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is designed to increase technology competency through use of basic computer programs (i.e. word processing, spreadsheets, Power Point, internet, etc.)

**Content:** Computer Laboratory

**Population:** General

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## 903010 - Library

**Grade Level:** 6 - 12

**Credits:**

**Description:** The area of Library Media emphasizes teaching students to become information literate and lifelong learners; working in collaborative partnerships to meet individual needs; and providing access to information resources and technology.

**Content:** Library

**Population:** General

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## 904010 - Study Skills

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is designed to introduce and reinforce specific study skills leading to student success. This course is NOT a "Study Hall"

**Content:** Study Skills

**Population:** General

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## 904020 - Advisor/Advisee

**Grade Level:** 6 - 12

**Credits:**

**Description:** A time period for teachers to mentor and advise students in academic and personal matters

**Content:** Advisor/Advisee (6-12)

**Population:** General

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## 904030 - STLP

**Grade Level:** 9 - 12

**Credits:**

**Description:** This course is for students participating in The Student Technology Leadership Program (STLP) as a part of their course schedule.

**Content:** Career Options (High School)

**Population:** General

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## 905952 - Driver and Traffic Safety Education

**Grade Level:** 9 - 12

**Credits:**

**Description:** Driver and Traffic Safety Education provides students with experiences which enable them to make the decisions necessary to move safely and efficiently within vehicle traffic situations. Through a sequence of classroom and supported driving experiences, students are introduced to the driving skills they need to safely operate a motor vehicle.

**Content:** Driver and Traffic Safety Education

**Population:** General

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## 906010 - Peer Tutoring

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is designed to train students in effective peer tutoring skills and provide experiences in peer tutoring

**Content:** Peer Tutoring

**Population:** General

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## 906020 - Cross Age Tutoring

**Grade Level:** 6 - 12

**Credits:**

**Description:** This course is designed to train students in effective cross age tutoring skills and provide experiences in cross age tutoring

**Content:** Cross-Age Tutoring

**Population:** General

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## 908010 - Home Bound

**Grade Level:** 0 - 12

**Credits:**

**Description:** This course is designed for those receiving home bound instruction

**Content:** Varies

**Population:** Homebound

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## 909010 - Teacher Planning Period

**Grade Level:** 1000 - 1000

**Credits:** 0

**Description:**

**Content:** Non-instructional content

**Population:** None

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## 909020 - Office/Teacher Aide

**Grade Level:** 1000 - 1000

**Credits:** 0

**Description:** This course must be assigned to a certified individual

**Content:** Non-instructional content

**Population:** General

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## 909030 - Study Hall

**Grade Level:** 0 - 12

**Credits:** 0

**Description:** This is a non-instruction, non-credit entry. This course number is not to be used for courses teaching and reinforcing specific study skills. This course must be assigned to a certified individual.

**Content:** Non-instructional content

**Population:** General



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## 909040 - SAFE/ISS

**Grade Level:** 0 - 12

**Credits:** 0

**Description:** **S.A.F.E. or In-School-Suspension must be assigned to a certified individual**

**Content:** Non-instructional content

**Population:** General

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## 909999 - School Defined Course

**Grade Level:** 1000 - 1000

**Credits:**

**Description:** This course number is to be used only for those courses that do not fit any of the above course descriptions. A specific content must be assigned.

**Content:** None

**Population:** General